ISSUED EVERY MONDAY AT 450 W. FORT ST., DETROIT 26, MICHIGAN. ESTABLISHED 1926.

AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

Vol. 68, No. 5, Serial No. 1246 **February 2, 1953** Subscription Price, $5 Per Year

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.
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INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Gags of the Week
Supercharged Quotes
Prediction of Things To Come

Story of the Week

A woman regards the same dress:
Indecent—10 years before its time
Shameless—five years before its time
Darling—one year before its time
Smart—right now
Dowdy—one year after its time
Hideous—10 years after its time
Ridiculous—20 years after its time
Amusing—30 years after its time
Quaint—50 years after its time
Charming—70 years after its time
Romantic—100 years after its time
Beautiful—150 years after its time.

Gags of the Week

When tempted to gossip, breathe through your nose.—T. N. TIEMEYER, *Pulpit Digest.*

Women are always trying to find out things they would rather not know.

Blessed are the meek—they don't get ulcers.—*Arkansas Baptist.*

Supercharged Quotes

"To renounce liberty is to renounce being a man, to surrender the rights of humanity and even its duties. For him who renounces everything no indemnity is possible. Such a renunciation is incompatible with man's nature; to remove all liberty from his will is to remove all morality from his acts."—JEAN JACQUES ROUSSEAU, *The Social Contract* (1762; Everyman's Library, E. P. Dutton & Co., Inc., 1938).

"No one, I believe, will regret that people are today enjoying themselves in greater measure and numbers than before, since they have now both the desire and the means of satisfying it. The evil lies in the fact that this decision taken by the masses to assume the activities proper to the minorities is not, and cannot be, manifested solely in the domain of pleasure, but that it is a general feature of our time. Thus—to anticipate what we shall see later—I believe that the political innovations of recent times signify nothing less than the political domination of the masses.

"The old democracy was tempered by a generous dose of liberalism and of enthusiasm for law. By serving these principles the individual bound himself to maintain a severe discipline over himself. Under the shelter of liberal principles and the rule of law, minorities could live and act. Democracy and law—life in common under the law—were synonymous. Today we are witnessing the triumphs of a hyper-democracy in which the mass acts directly, outside the law, imposing its aspirations and its desires by means of material pressure."—JOSE ORTEGA Y GASSET.

"This I am sure, whoever, either ruler or subject, by force goes about to invade the rights of either prince or people, and lays the foundation for overturning the constitution and frame of any just government, he is guilty of the greatest crime I think a man is capable of, being to answer for all those mischiefs of blood, rapine, and desolation, which the breaking to pieces of governments bring on a country; and he who knows it is justly to be esteemed the common enemy and pest of mankind, and is to be treated accordingly."—JOHN LOCKE.

Prediction of Things To Come

Great days coming!

Laboratory physicists lick their chops over the forces which bind atoms. They are so great that metal strengths at least 10 times those in present commercial use are possible.

Scientists confuse amateurs like "Dope" by saying that lattice vacancies, dislocations, mosaic blocks,
(Concluded on Page 5, Column 1)

Wholesalers Try Extension of Mfrs'. 1-Year Warranty

CHICAGO—Extension to five years of the manufacturer's warranty on certain hermetic and open compressors is being made by some parts wholesalers and in conjunction therewith an insurance program has been developed on a limited and somewhat experimental basis.

The plan works essentially like this:

A new hermetic motor-compressor unit or open compressor body assembly sold by the parts wholesaler normally carries a one-year replacement warranty provided by the manufacturer. (If the manufacturer provides a long term warranty this plan of course would not be of interest). This replacement warranty is extended for another four years, making five years in all, by the parts wholesaler.

(Concluded on Page 11, Column 4)

Debate Detroit Bill To End Bid-Shopping On City Contracts

DETROIT — Arguments for and against a resolution aimed at eliminating bid-shopping on city contracts by general contractors were heard by the Detroit Common Council recently before a large and partisan audience.

The resolution would require general contractors to list their mechanical (including refrigeration and air conditioning) and electrical sub-contractors and the amounts of the sub-contract bids at the time they submit their over-all bid on municipal work.

It would also give city officials the option of letting mechanical and electrical sub-contracts independently.

Representatives of mechanical and electrical contractors and the electrical workers' union favored the resolution, while representatives of gen-
(Concluded on Page 15, Column 1)

NEMA Firms Sell 278,557 Refrigerators In Nov.

(See table on page 21)

NEW YORK CITY—A total of 278,557 household refrigerators were sold during November by the 16 manufacturers reporting to the National Electrical Manufacturers Association, the association announced.

This represents a gain of 66% over the same month of 1951 and a rise of 19% over October, 1952.

For the first 11 months of 1952, these companies sold 3,145,168 units, 16% fewer than in the same period of 1951. Bright spot in the over-all picture was the fact that 1952 exports by these firms to Canada more than doubled those of the 1951 period. However, sales to other foreign countries dropped by a larger number of units than Canadian sales gained.

Next Educational Conference Set for Seattle April 24-26

WASHINGTON, D. C.—The next Refrigeration and Air Conditioning Educational Exhibit and Conference will be held in Seattle, Wash. on April 24, 25, and 26, according to the Refrigeration Equipment Manufacturers Association. This will be the 11th and last in the series of educational exhibits and conferences.

Admiral Shows Room Coolers, Ranges, Freezers

CHICAGO—New lines of room air conditioners, home freezers, and ranges, plus a "Moisture Conditioner" and a dehumidifier, were introduced last week by Admiral Corp.

Developed by company engineers, the compact air conditioner extends only 3 in. into the room. It is made in ⅓, ½, ¾, and 1-ton sizes and has 12 different dial settings.

Admiral said the "two way" Moisture Conditioner, which increases the humidity content in the home in the winter and lowers it in summer, is the first unit of its kind. The portable conditioner can be plugged into any standard 110-115-volt a.c. outlet.

The freezer line consists of seven models, including an 11-cu. ft. upright which is styled to match the company's refrigerator line and a 27.4-cu. ft. upright. Also in the line are 13.2, 16.8, and 20-cu. ft. chest-type freezers with counterbalanced lids and two 19-cu. ft. uprights.

Among features of the 1953 range line are an adjustable broiler rack which is raised and lowered with
(Concluded on Page 13, Column 1)

Freezers Owners Save $7 to $105, Survey Finds

CHICAGO—Owners of home freezers save from $5 to $75 a month on annual food bills. In addition, savings of $2 to $30 a month are realized when gasoline and oil for shopping trips, parking lot fees, delivery charges, and personal time are included.

These figures were revealed in an extensive nationwide survey conducted by Hotpoint Co. of 500 home freezer owners on "the advantages of owning a freezer."

Of the 500 owners interviewed, 66% reported a definite saving in food costs with 36% reporting a saving well over the minimum $5 per month figure in the survey questionnaire, according to the company.

"When owners talked of money savings," Hotpoint reported, "it was most often in connection with meat buying. Dollars saved, computed by
(Concluded on Page 8, Column 1)

McCray Enters Domestic Freezer Field with Upright

KENDALLVILLE, Ind. — A new home upright freezer, the McCray "Twin-Door," was recently announced by the McCray Refrigerator Co., Inc. here.

The McCray "Twin-Door," finished in baked white enamel, has a 20-cu. ft. capacity and holds 725 lbs. of frozen food. The functional upright design of the freezer makes back corners of any shelf easily accessible. The "Twin-Door" gives big capacity for a small amount of floor space, according to J. W. Bostwick, vice president in charge of sales.

The freezer is designed with two flush type doors that can be opened independently of each other, allowing for easy exposure to the total refrigerated area. Special "Koldflo" shelves permit the circulation of refrigerated air throughout the whole freezer space. An adjustable shelf is located behind each door. It can be raised, lowered, or even removed for complete flexibility.

No refrigerating coils run in the walls of the cabinet and there are no seams, joints, or exposed screw heads. inside the cabinet. A thick layer of heavy density Fiberglas surrounds the cabinet to lock-in refrigeration.

Built-in thermal units around each door opening eliminate any build-up of frost so that doors will never freeze shut. A special steel "bow
(Concluded on Back Page, Column 4)

Jordon Refrigerator Ups Levin to Sales Manager

PHILADELPHIA—Alfred P. Levin, formerly advertising manager and field sales manager of Jordon Refrigerator Co., Philadelphia manufacturer of commercial refrigeration and upright home freezers, has been appointed sales manager, Harry Fogel, vice president, announced.

Levin, who is 31, joined Jordon seven years ago as advertising manager and has held various promotional and sales positions with the company since. A year ago he was promoted to field sales manager to direct the growing field sales forces.

In his new position, Levin will develop expanded sales activities of all Jordon products, especially its upright home freezer line. He will also direct expansion of the company's field sales organization.

Same Air Flow Rate for Cooling, Heating Seen Possible In Year-Round Conditioners

CHICAGO — Indications that the same rate of air flow can be used for both winter heating and summer cooling in year-round residential systems aroused the interest of air conditioning engineers at the 59th annual meeting of the American Society of Heating and Ventilating Engineers at the Conrad Hilton hotel here Jan. 26 to 29.

This possibility was a major point made in a technical paper reporting initial results of a research project on room air distribution for residences conducted at the University of Illinois.

Residential air conditioning with a 2-hp. condensing unit was also the subject of another paper given at the meeting, which broke ASHVE attendance records.

In the paper on room air distribution, S. F. Gilman of the University of Illinois described experiments with high side-wall registers in a test room. Further research will deal with floor registers of both conventional and perimeter types.

"An increase in the flow rate during winter heating, with accompanying decrease in supply-air temperature, caused a decrease in the temperature variations within the room and a reduction of the room heat loss, but did not cause excessive air motion in the occupied zone," Gilman said.

He also emphasized that free opening type of high side-wall outlets were unsatisfactory for summer cooling and that settings of vertical and horizontal vanes of the supply outlets had considerable influence on distribution for cooling but little effect during heating.

The project on residential cooling with a 2-hp. unit, also conducted at the University of Illinois, brought out the point that the maximum measured cooling load of 20,450 B.t.u. per hour was "considerably lower than
(Concluded on Back Page, Column 1)

Air Conditioning Headed for Biggest Year

Show Discloses Added Interest In Year-Round Residential Equipment

CHICAGO—Air conditioning should be headed for its biggest year in 1953, if the indications and predictions coming out of the Air Conditioning Exposition held here last week come close to the mark of actual realization.

The exposition (known as the International Heating & Ventilating Exposition in former years) was the largest in history, taxing the facilities of the International Amphitheatre here. Particularly noticeable was the increasing number and size of the cooling equipment exhibits, particularly those designed for year-round residential air conditioning systems.

It would probably be easier to name the manufacturers of warm air heating systems who *don't* have year-round systems or at least a cooling package, than it would be to name those who *do* have or are introducing such equipment.

Pictures of equipment shown at the Air Conditioning Exposition and more detailed descriptions will appear in later issues of the NEWS.

In addition to those who showed such systems at the National Association of Home Builders Show the previous week (and which were shown in the last issue of the NEWS) the following were noted in a first quick tour of the exposition as introducing year-round systems:

Eureka Williams Corp.; Henry Furnace Co. (Moncrief); J. V. Patten Co. (Sun); Norman Products Co.; Mueller Furnace Co.; Norge Heat Div., Borg-Warner Corp.; C. A. Olsen Mfg. Co.; Thatcher Furnace Co.; Iron Fireman Mfg. Co.; The Waterman-Waterbury Co.; Niagara Furnace Div.; Meyer Furnace Co.; and Heil Co. Such equipment was also shown by some "surprise" entrants in the field as the Barkow Mfg. Co., a producer of home freezers.

Among the new entrants in the window-type room air conditioner field were the Rheem Mfg. Co. (which has previously concentrated on home heating and water heating equipment); the Crane Co. (one of the
(Concluded on Back Page, Column 1)

Westinghouse To Produce Combination Washer-Dryer

LOS ANGELES — Westinghouse Electric Corp. is planning to introduce a combination washer-dryer for home laundry use within 18 months, according to R. J. Sargent, manager of major appliances.

He told a press conference here that the washer-dryer would sell for slightly less than the combined price of the company's present washer and dryer.

Sargent predicted that sales of Westinghouse appliances in 1953 will reach a new high. He said production is being boosted 20% over 1952 or approximately equal to that of 1950, the company's biggest appliance year.

He noted that the Appliance Div.'s capacity will be doubled when a new plant in Columbus, Ohio is opened in October. This plant will be able to turn out 1,000,000 appliances a year, he reported.

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How To Sell Residential Air Conditioning

Educate Salesmen To Know What It Will Do, How It Makes Homes More Valuable

CHICAGO—Year-round residential air conditioning—"The Feature of the Future" for new home builders—presents a great opportunity for builders, but they must understand not only what it is and what it does, they must also learn some of the correct ways to merchandise it to prospective buyers.

That's what builders attending the National Association of Home Builders convention and exposition here last week heard in a talk at one of their general sessions presented by J. F. Knoff, general sales manager, Airtemp Div., Chrysler Corp. Knoff's talk was presented under the sponsorship of the Air Conditioning and Refrigerating Machinery Association.

"At the formal opening of a new unit of air conditioned homes last summer," Knoff recounted, "the advance publicity and promotion brought out a large crowd of interested prospects, who literally poured through the open doors and windows of the house to inspect it—and to see how the air conditioning was functioning.

"Naturally it didn't function very well with many times as many people crowded into it as would be found in normal conditions, and with all the doors and windows open wide all of the time. The builder will have to learn that he must demonstrate the air conditioning function to small groups of people under proper operating conditions."

A public which has air conditioned working quarters, air conditioned recreational facilities, and air conditioned transport—and in 1953 this includes air conditioned automobiles—will demand it in their homes, said Knoff. However, this doesn't mean that the builder still won't have to do some merchandising to sell this added feature which presents an added cost.

"Educate the real estate salesmen on the benefits of air conditioned homes," Knoff urged. "Use blow-ups of cutaway models of air conditioned homes. Hang up dirty filters that show how much dirt is removed from a house in only a short period of time.

"Dramatize the idea that clean air means less housework, less dusting, less cleaning of rugs.

"Emphasize health benefits—the fact that there is less pollen, hay fever, smoke, and harmful chemicals in the air. Remember that germs do not have their own outboard motor—they have to travel on a piece of dust. Remind prospective home buyers that the American Medical Association has reported that air conditioning brings about marked improvement in the condition of heart patients, respiratory cases, and shock cases."

Knoff said that the following might be listed as the principal "home buyer benefits" in a year-round air conditioning system:

Greater Comfort
Better Health
Less Housework
Lower Cleaning Costs
Greater Relation
Greater Property Value
Improved Living Standards

The following are some of the main "home builder benefits" of building homes with year-round systems:

Meets New Public Demand
Provides Modern Living
Quick Sale Appeal
Added Profit
Builds Prestige
Offers Construction Benefits
Helps Create a Replacement Market

Lending agencies look favorably upon air conditioned homes, Knoff declared, for the following reasons:

Air conditioned homes hold their value longer
Will depreciate more slowly
In case of resale will turn quickly
Outside expenditures greatly reduced, enhancing value of owner's income for payments on mortgage.

Very important to the builder, Knoff declared, will be a vigilant attitude to make certain that good installation standards are maintained to insure satisfactory performance, and thus increase public acceptance.

Installations that are "adequate" for the job are very important, he declared. The builder should analyze close low price bids that are out of line, and give serious thought to the installer's knowledge, experience, and integrity.

Operating expenses based on local factors should be clearly defined to the buyer, so as to offset buyer misconceptions and rumors about costs.

Builders Hear About Air Conditioning

RESIDENTIAL AIR CONDITIONING is discussed before intensely interested home builders by a panel of industry representatives including J. A. Gilbreath of Servel (speaking), and Keith T. Davis of Bryant, S. J. Levine of General Electric, and A. E. Meling of Carrier. Chairman was R. G. Hughes, first vice president of the National Association of Home Builders.

Knoff then quoted figures from the Indoor Climate Research Bureau Survey completed in 1952, in which the high percentage of 31.6% of users of year-round residential systems who were contacted, offered answers to questions asked of them.

Although the year-round residential air conditioning field may be considered to be in its infancy, a high level of satisfaction was recorded, Knoff declared, and one remarkable result of the survey was that there was practically no protest of any kind on operating costs.

Following are some of the results of the survey among users of year-round residential systems, as presented by Knoff to the NAHB audience:

Do you think your air conditioning equipment is a good investment?

Yes	81%
Did not answer	11%
No	8%

Service Complaints—Low on refrigerant; dirty filters; improper instructions for use. (Checked by field engineers.)

What do you like best about air conditioning?

Cooling in warm months	26%
Did not answer question (assumed satisfied)	25%
Healthy atmosphere	21%
Efficiency, Dehumidification, dependable heating—cooling	21%
Quietness, dependability, size, economy	16%

84% Replies Under "Health—Comfort"

Is your air conditioning used for:

Comfort	74%
Business	3%
Both	20%
Did not answer	3%

How many rooms air conditioned?

Five	13%	
Six	17%	
Seven	17%	
	47%	Average size home
Eight	14%	
Nine or more (Dr., Dentists Comb.; home and office)	14%	
"All" (no number)	19%	

Cost of installations?

	%
$1,000	5
$1,000-1,500	21
$1,500-2,000	24
$2,000-2,500	15
$2,500-3,500	11
$3,500-4,000	3
Over $4,000	2.5
Could not remember (satisfaction overshadows costs)	20.5

What is monthly operating cost for the cooling season?

Electricity

	%
Under $10	29
$10-$15	13
$15-$20	11
Under $20	53
$20-$25	5
$25-$30	4
Over $30	5
No records kept (Cost no excessive)	33
Low operating costs	**86**
Represent large installations	**14**

Water

	%
Under $10	36
$10-$15	10.5
$15-$20	8.5
Over $20	5
No records kept (Cost not excessive)	33
No reply to water costs	7
Costs under $10 (Or not excessive)	76

How did you first learn about year-round air conditioning?

	%
Did not recall	30
Through dealers and salesmen	26.5
Personal investigation (advice from friends)	23
Through advertising	15.5
Model homes, builders' shows, etc.	5

Do you have any suggestions as to how air conditioning could be improved?

	%
Completely satisfied with present performance (No suggestions to offer)	39
Satisfied but offered suggestions for future	39.5
Total	**78.5**
a. Quieter operation and water conserving devices	22
b. More compact installation design	10.5
c. Lower initial cost	7
Service thoughts (not fully satisfied)	
a. Better, lower cost service	15
b. Better, faster parts service	2.5
c. Better cooling	4

21.5% through contacts and better service can be converted to "satisfied users" on suggestions for improvement:

No reference to appearance!

No reference to operating costs!

Facts revealed from survey:

Replies

- 81 % Good investment
- 84 % Under health and comfort
- 66 % Average size home
- 53 % Electricity under $20 per month per cooling season
- 76 % Water under $10 per month per cooling season
- 78.5% Satisfied users
- 14 % Heating installation made at same time as air conditioning installation
- 15.5% From doctors, dentists, and other professional people who conduct their business from combination home and office

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REFRIGERATION TUBE
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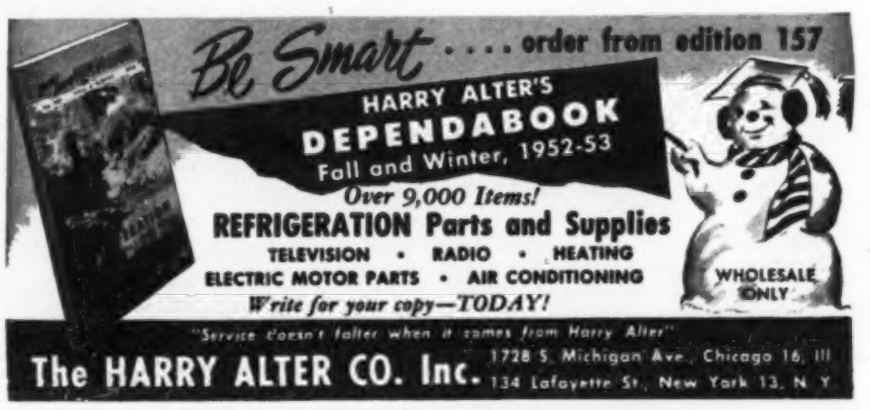
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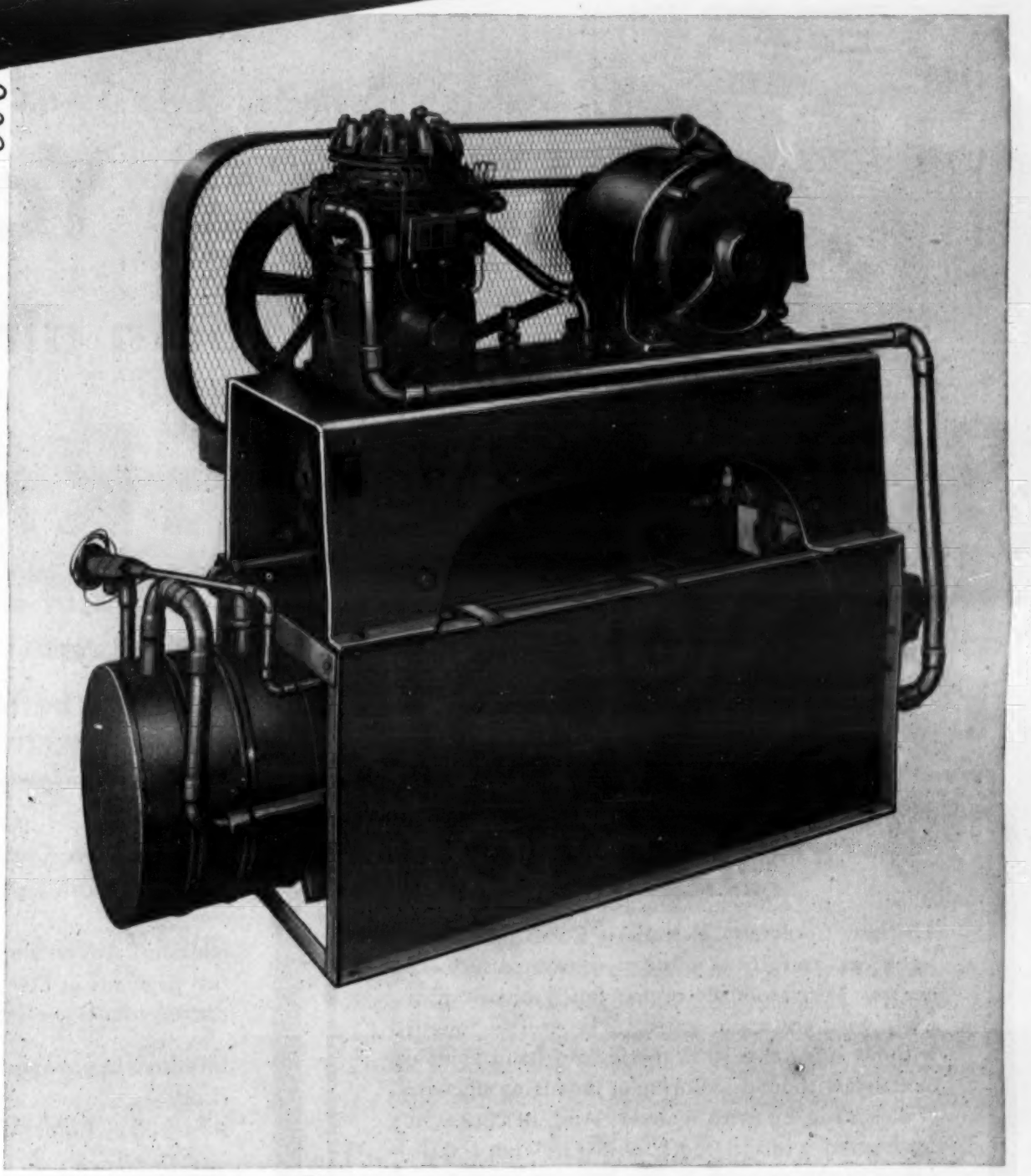
LOTS OF COLD CASH FOR YOU IN THESE BRUNNER SINCE 1906 LIQUID CHILLERS



There's a whole *new* refrigeration market waiting for you in these BRUNNER Liquid Chillers! Temperature control in industrial processing is now vital in hundreds of different industries—foods, chemicals, oils, paper, rubber, metals, etc. Smaller commercial applications in air conditioning and refrigeration are also profitable prospects for Brunner Liquid Chillers. Two types now available—dry expansion or ice builder type. Both are powered by dependable, quiet slow-speed Brunner open-type condensing units. Both are easy to install—easy to service in the field . . .

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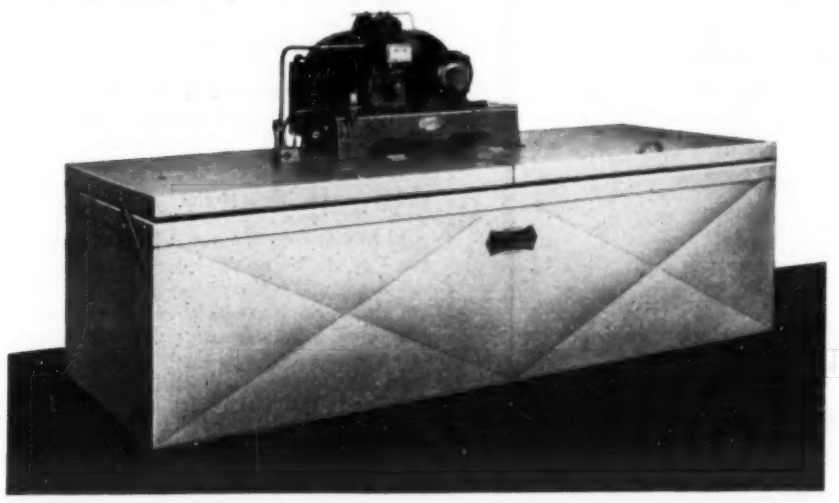

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Food Plan Dealers Assn. To Hold Open Meeting Feb. 4 In New York

NEW YORK CITY — Businessmen "concerned about the future of food plans," are invited to attend the first open meeting of the newly formed Food Plan Dealers Association, to be held at 7:30 p.m. Wednesday, Feb. 4, in the Gold Room at Manhattan Center, 34th St. and Eighth Ave. here.

The meeting is open to freezer manufacturers and distributors, food processors, banks, shippers, as well as food plan operators themselves, it was explained by Harvey Farber, temporary president of the association.

In an invitation letter sent to about 250 firms in the field, Farber wrote, "If you want to help make the public believe in Honest Food Plans, by aggressively promoting the positive benefits of the food plan for the consumer, and by refuting the adverse publicity, word-of-mouth attacks and gossip that have tried to give housewives a distorted conception of a food plan, then Wednesday, Feb. 4, is an important date for you."

The Food Plan Dealers Association was formed in December to help "assure that consumers receive the full benefits of freezer-food plans."

Since that time, a 14-man steering committee, chosen at the initial organizing meeting, has been setting up the mechanics of the association. A tentative code of standards has been adopted, an approved seal for display by member food plans has been developed, and a tentative program has been outlined. Advertising and public relations programs have been discussed.

All work of the steering committee is subject to approval of the entire membership, subsequent to the Feb. 4 meeting, Farber pointed out.

Carrier Dividend Set

SYRACUSE, N. Y.—A dividend of 45 cents per share on the common stock was declared recently by the board of directors of Carrier Corp. The dividend will be payable March 2, 1953, to holders of record at the close of business on Feb. 16, 1953.

Upper Midwest Dealers Meet In St. Paul Feb. 3

ST. PAUL—Members of the television industry from throughout Minnesota and nearby areas will converge on the St. Paul Athletic Club on Feb. 3 for the first annual convention of the Upper Midwest Appliance, Radio-TV Dealers, sponsored by the Twin City Appliance Dealers Association.

Attendance will include dealers, distributors, factory and utility representatives, members of the press, radio and TV, and financial institutions.

Henry Mayall, secretary of the organization, announced that speakers will include Fred D. Ogilby, vice president in charge of television for Philco; Homer Travis, director of retail distribution for Kelvinator; and as banquet speaker, H. B. Price, Jr., NARDA vice president and president of Price's, Inc., Norfolk, Va.

The committee handling the convention includes Marv Schroeder, Ray Neuenfeldt, Oliver Hegge, Richard Werner, Maurice Ruben, C. J. Lessard, and Charles Brandborg.

Phila. Bank Offers Retailers New Charge Account Service, Acts as Credit Center

PHILADELPHIA — Northwestern National Bank is now offering local stores a new retail charge account service under which the bank acts as a credit and collection center for participants.

The plan enables consumers to charge all purchases at no extra cost in any store which subscribes to the service, according to James A. Bell, bank president. It is available to all types and sizes of stores engaged in a "legitimate and reputable business," he said.

Bell explained that the plan works like this:

The bank charges the retailer a flat 5% of all charge accounts, except where the customer is given credit over a 90-day period. In the latter case, a 6% charge is made.

Customers of a member store may apply for a credit rating through the store. If credit is approved by the bank, the customer is given a charge card which will be honored at all member stores on purchases of $5 or less. The bank must be consulted on credit for purchases over that amount.

When permitted by the bank, credit may be extended over a 90-day period on purchases of $45 or more. The bank bills customers monthly on a rotating basis and handles all collections.

At the end of each day, member retailers mail or deposit all credit slips written that day. That amount, less 5%, is then credited to the retailer's account.

If a customer returns an item, the retailer fills in a form and the price of the item is deducted from the customer's account. Also, the 5% bank charge is canceled and the money returned to the retailer.

Merchants who desire to join the program are required to deposit $25 to cover the cost of investigating the store and setting up a bookkeeping system for individual stores. The money is refunded when and if the retailer's charge business with the bank reaches a total of $3,000.

Member retailers need not transfer accounts with other banks but they must open an account at Northwestern to cover the charge program, which is handled by a separate department at the bank.

Bell said the charge department at the bank's three main offices will be open during regular retail business hours so that stores which remain open until 9 p.m. can check credit ratings right up to closing time.

According to Bell, the service eventually will be offered to all retailers in Philadelphia, Chester, Delaware, Bucks, and Montgomery counties.

Customers Can Pay Bills In Lump Sum In Detroit Plan

DETROIT — Designed to aid the small retailer, a new charge sales plan will soon be introduced in this area by Wabeek State Bank, according to George B. Judson, president.

Judson said the plan will enable customers to pay bills in lump monthly payments. Here's how the plan will work:

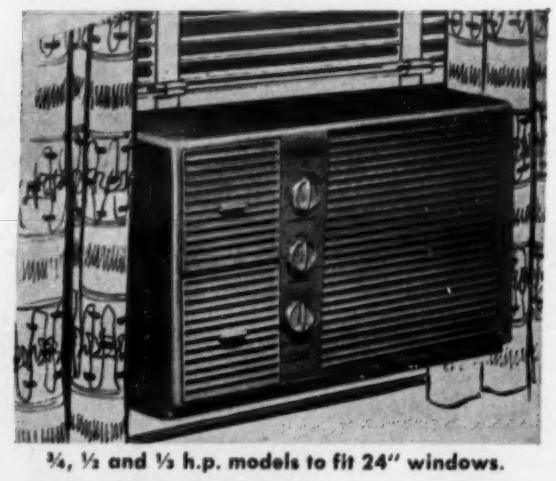
The bank will serve as a credit center. Customers will become eligible for credit at participating stores through credit plates issued by the bank. Merchants will deposit charge slips to their accounts at the bank, being charged a discount for the service.

Burroughs Adding Machine Co. and the Addressograph Sales Agency are cooperating in development of the plan, which will apply to 30-day-charge sales.

The plan is similar to one being offered by banks in Jackson and Kalamazoo, Mich., and in five eastern cities. Under the plan, one licensed bank in each of the seven centers serves as the credit, accounting, bookkeeping, and collection office for participating stores. Customers get the month's entire bills in one statement from their bank and pay all with one check.

Johnson Names Harris

LITTLE ROCK, Ark.—A. W. Johnson Co. of Texarkana has announced the appointment of Carl E. Harris as manager of its Little Rock branch. The company serves in the field of mechanical construction and is distributor for Carrier air conditioning products.



¾, ½ and ⅓ h.p. models to fit 24" windows.

Before You Sign

for any room air conditioner

SEE COOLERATOR

Yes, see Coolerator—see your Coolerator distributor!
Ask him these two questions:

1 What's *better* about the Coolerator line?

Here's what gives the Coolerator line real sales drive!

The new Coolerator Room Air Conditioner is designed as carefully as a fine piece of furniture. The neutral Mirro-tone decorator finish blends pleasingly with any room setting. The unit is designed without side vents so draperies can hang right up next to it without discoloring or impairing efficiency. Makes a big hit with women! And, of course, it's engineered with all the famous Coolerator skill—automatic thermostat (at no extra charge). Ultra-High Velocity air circulation for faster, more efficient total room-cooling without drafts, positive double-action forced exhaust, engineered for unusually quiet operation.

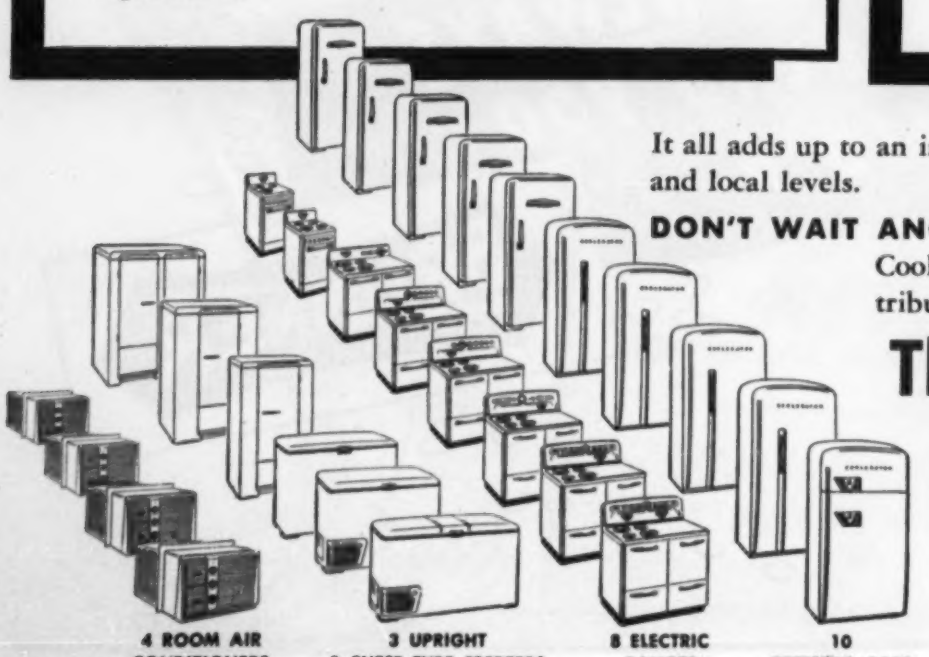
2 What's *better* about the Coolerator merchandising program?

Here's how Coolerator merchandising program helps you clinch sales!

National Advertising—Hard-hitting, hard-selling full page ads in LIFE and SATURDAY EVENING POST during your big selling months—May, June & July!

Intensive key dealer advertising—territory by territory—to insure maximum sales and profits for selected key Coolerator dealers.

Complete merchandising support for each individual dealer—the kind of really effective sales helps that reach out and bring customers into your store—*ready to buy!*



It all adds up to an intensive, planned sales program at national and local levels.

DON'T WAIT ANOTHER DAY! You may still qualify as a Coolerator key dealer. See your Coolerator distributor or write us direct for full details.

The Leadership Line by Coolerator

An ET&T Associate

Refrigerators, Freezers, Ranges and Room Air Conditioners

THE COOLERATOR COMPANY, Duluth 1, Minnesota

NEW 'Cross-Flo'

HEAVY-DUTY DRIER-FILTER

THE MOST EFFICIENT EVER MADE!

Now 100% improved—and 100% foolproof with new fiberglas depth filter for increased filtering capacity—and new MOLDED Remcal Drying agent for increased moisture-absorbing capacity and improved efficiency. Also with silica gel. Capacities 1-1/2 thru 5 tons. ***Send for descriptive folder.***

REMCO INCORPORATED ZELIENOPLE, PA.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

micro-cracks, and similar types of disorder are responsible for structural weakness in metals commonly used by our industry.

However, suffice it to say that physicists and metallurgists predict they will learn why slips and fractures occur at low stresses, and that means will be devised to cope with these recurrent manufacturing troubles.

Furthermore, they promise to explore super-electrical conductivity—a phenomenon which many metals show at low temperatures—and for which, as yet, there is no satisfactory explanation. Eventually, some think, it should be possible to increase the temperatures at which super-conductivity persists. If so, stupendous possibilities for engineers, designers, and manufacturers will ensue.

Increasing utilization of radioactive isotopes in research and process control is a pleasing prospect, too. Atomic tracers are used more and more for studies of slag metal reactions, and for abstruse inquiries into absorption, adsorption, corrosion, and self-diffusion.

Much can be learned about the nature of metals by observing the effect of radiation on their structure and properties, it is said. Furthermore, the development of nuclear energy has sharpened interest in "rare" metals such as uranium, plutonium, beryllium, zirconium, and titanium. At any moment commercial uses for these elements may turn up.

Acquisition of knowledge about molybdenum, vanadium, and complex alloys of iron, nickel, cobalt, chromium, and columbium—metals which undergo high stress for long periods at extreme temperatures—has been accelerated, too. Perhaps they will help cut costs and increase efficiency in our industry some day.

Previously obscure materials have been developed to the point where they are becoming industries of their own. Titanium, because of its unprecedented strength-weight ratio, has exceptional possibilities for all sorts of products. Not too long ago you could get titanium only if you tried hard. It was doled out by the ounce. This year production will exceed 5,000 tons. And then there's magnesium—another and more immediately fabulous story.

Let's peer a little deeper into the crystal ball. Scientists say we can look forward to Buck Rogers applications of ultrasonic energy in manufacturing. Use of electron beams in steel production and the fabrication of metals already is well along. Engineers are utilizing high frequencies for drilling and machining at speeds and with accuracies which old-timers like the "Bull of the Woods" simply wouldn't believe.

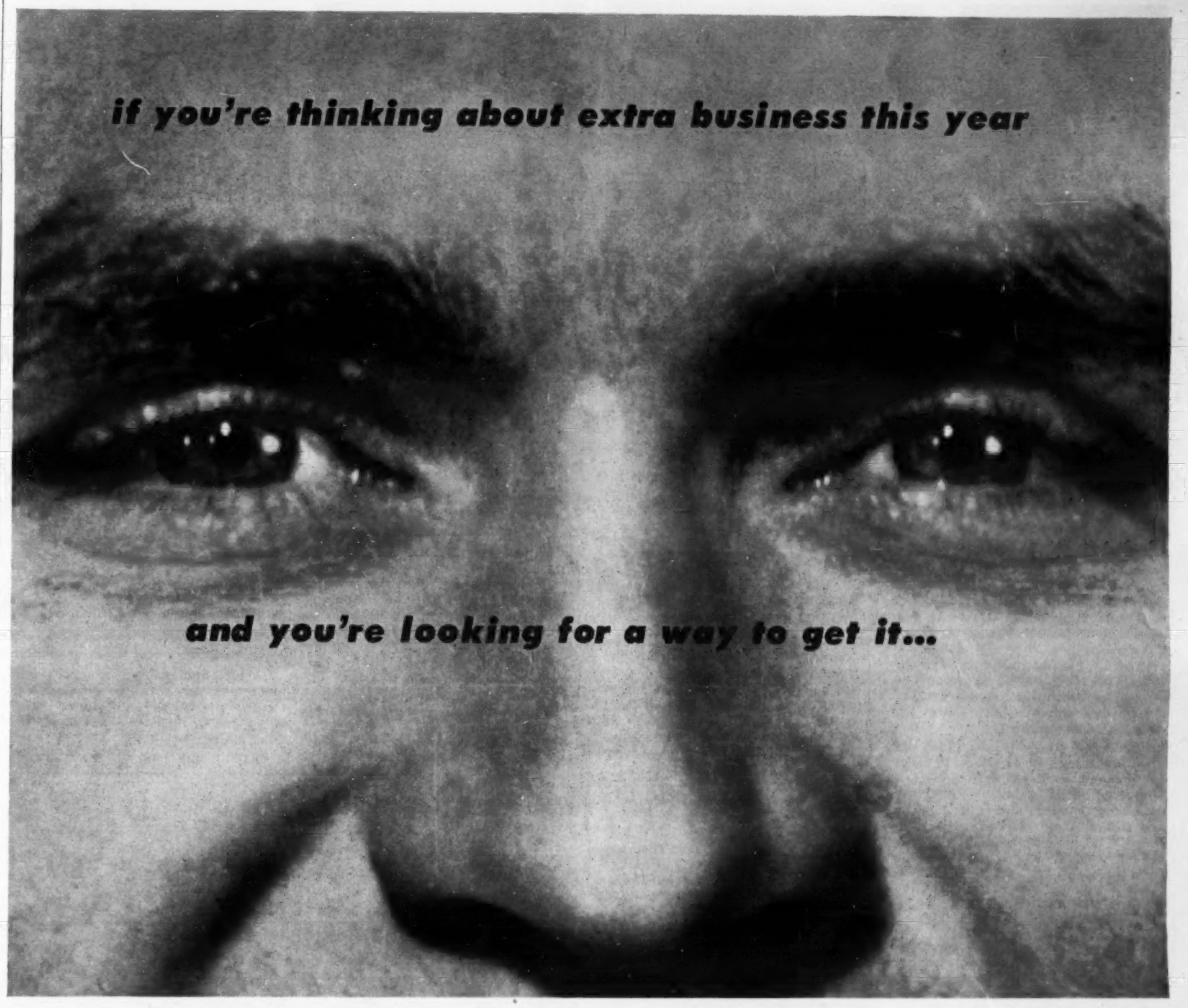
In extractive metallurgy (the separation of larger and larger quantities of metals from low grades of ore) ultrasonic techniques may be a life-saver for our nation. Our high grade ores, as you know, are being depleted at an uncomfortable rate.

Ultrasonics in connection with crystal alignment is another a-borning science which will open up new vistas. (No point in trying to explain it because we don't begin to understand what it's all about ourselves.)

One more look into the future: Metallurgists long have dreamed of pouring molten metal into an air-conditioned mould. From this temperature-controlled form would emerge a solidified, cast section which could be cut quickly into lengths and shapes suitable for easy and cheap processing. These dreams are coming true for nonferrous metals, and are past the pilot plant stage in steelmaking.

Incidentally, frozen mercury now is a pattern material. Foundries equipped with industrial freezers are able to preserve mercury patterns at very low temperatures, and make excellent use of them.

Obviously all industry—ours included—is nearing the cash-in point of an almost fantastic technology. Thanks to the remaining areas of individual freedom and competition, exciting scientific techniques are ready to sunburst a Golden Age of *Progress.*

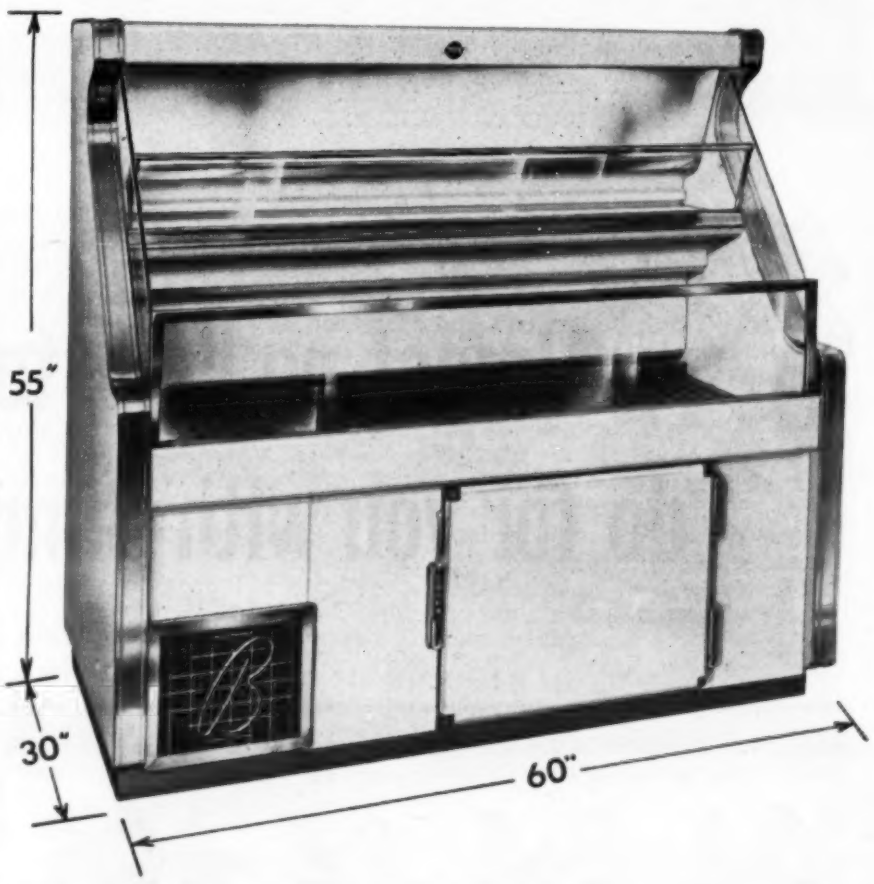


call us...wire us...write us today about the new self-service

BALLY SERVICOLD 60

sell it with your present line

you sell where you never could sell before



SERVICOLD 60 IS AVAILABLE TO FRANCHISE DEALERS OF OTHER LINES IN TERRITORIES WHERE BALLY IS NOT BEING SOLD

IT'S ONLY 60 INCHES LONG!

Sell it to old customers . . . it's what they have been waiting for. Sell it to new prospects . . . get extra business for yourself where limited floor space and higher cost of larger cases stopped sales before. It's brand new open refrigeration for Delicatessens, Meat Markets, Grocery Stores, Dairies, Confectioneries, Drug Stores, Florists Shops . . . all prospects for Bally Servicold 60 . . . you can sell it everywhere.

List Price $990.00 F. O. B. Bally

quality for your customers...extra sales for you

1. It's small . . . only 60" long, 30" deep, 55" high . . . makes it easy for every "Ma and Pa" store to get into self-service selling. Big sales-getter for Super Markets when used as a "Spot Special" case.
2. It's open style . . . easy self-service for the small store . . . just what they need for dairy products, fruits and vegetables, meats, delicatessen, candy and baked goods. Finish is genuine Bally acid-resistant porcelain for lifetime service . . . never turns yellow or peels.
3. Displays plenty of merchandise . . . in addition to the roomy main shelf there is an ample sized refrigerated mezzanine shelf for extra display. Complete display is doubled in appeal by the lifetime copper-back mirror angled to catch the eye.
4. Large refrigerated compartment . . . located in lower section of the case provides perfect storage space to keep extra supplies of all types of perishable foods.
5. It's easy to install . . . only 30" deep to go through the narrowest door of any small store. Just put the case in position, plug in the nearest socket and you're ready to refrigerate.
6. No compressor worries . . . powerful 1/3 horsepower noise-free hermetic compressor with capillary tube built in (5 yr. warranty). Merchandise is preserved and protected by a constant flow of cool dew-laden air.

BALLY CASE & COOLER COMPANY

BALLY, PENNSYLVANIA - TELEPHONE; BALLY 5-2311

File of parts catalogs and "Reveldex" file.

Card shows manufacturer's part number and Urner's stock number.

Portion of Urner's five sections of bins for storing parts.

Appliance Repair Parts Handling

Systematic Cataloging and Storing of Service Parts Helps Dealer Keep Large Inventory Balanced, Readily Available

CHICAGO—Highlights of his company's appliance parts handling system were described by Phil Urner of Bakersfield, Calif. at the recent annual convention of the National Appliance & Radio-TV Dealers Association.

Urner explained that the system dates back to the war and was developed as a result of conditions existing at that time—scarcity of materials and experienced help.

When the company expanded its service business in an effort to meet the demand, he noted, it found itself hampered by two problems: difficulty of finding, naming, and pricing parts, and difficulty of re-ordering parts in time to keep stock balanced. So the system was developed to overcome these problems.

PARTS DEPARTMENT INCLUDES FIVE SECTIONS OF BINS

Urner, who used slides to show how the system operates, pointed out that in the 30-ft. by 30-ft. parts department there are five sections of bins and a long counter at the front.

"This department," he said, "forms part of the rear of our sales floor and every customer must pass through our display of new appliances to get to the counter. Here our customers not only buy parts but bring small appliances, small radios, wringers, and other portable gadgets for repair.

"We have a small display of new electric housewares behind the counter and quite a few new articles are sold each month by the counter men. We also sell washing detergents and freezer supplies in addition to parts.

"We store our parts in wooden bins with adjustable shelves, a very low priced but satisfactory method.

"Small parts such as washers, springs, etc., are stored in bottles in special bins at the front of the sections. We also use cardboard stock boxes of all sizes. These are purchased from an automobile parts distributor."

TRACES STEPS IN KEEPING TRACK OF PARTS

Urner then traced the steps used in finding, selling, and tallying the sale of a single part.

"It has been said that you might as well not have a part if you can't find it," he commented, "and we found before we set up our system that parts were often re-ordered when they were in our stock all the time."

Here, Urner showed a picture of a customer with a broken iron handle.

"After questioning the customer to find what make and type of iron the handle came from, our parts man steps to our file of parts catalogs," he explained.

"A little searching of the General Electric section of this file and we find the iron catalog. Then we locate the page—and here is a picture of the required part, General Electric catalog number XA14X12.

"Numbers such as this are one reason we have to use our own numbering system in storing and locating parts. All manufacturers have their own numbering and naming systems and there is no way known to man to set them up in any workable system.

OWN STOCK NUMBERS AIDS LOCATION

"The answer was to set up our own system of stock numbers. This was accomplished by the same method used in numbering houses—by location.

"Our five sections are numbered 1 to 5. Each bin in the section is lettered from A to K. Each shelf is numbered from the top down and then each part on the shelf is numbered.

"This system makes it easy to locate any part once we have our stock number. But it makes necessary a conversion system to translate manufacturers' part numbers to our stock number. This operation we perform with our 'Reveldex' file, a revolving arrangement which holds about 4,500 cards.

"A little searching and we find the required card which tells us that General Electric part number XA14X12 is our stock number 3G423 and that means it is part No. 23 on the fourth shelf of the G bin of section No. 3.

"After finding our number, our parts man goes to the proper bin, locates the shelf, and quickly sees the part above the tag pasted on the front of the bin.

"Taking the part to the counter, he writes up the sale on a sales ticket. He uses our part number only, but that is sufficient to give complete information about the sale.

"Obviously, many parts are handled

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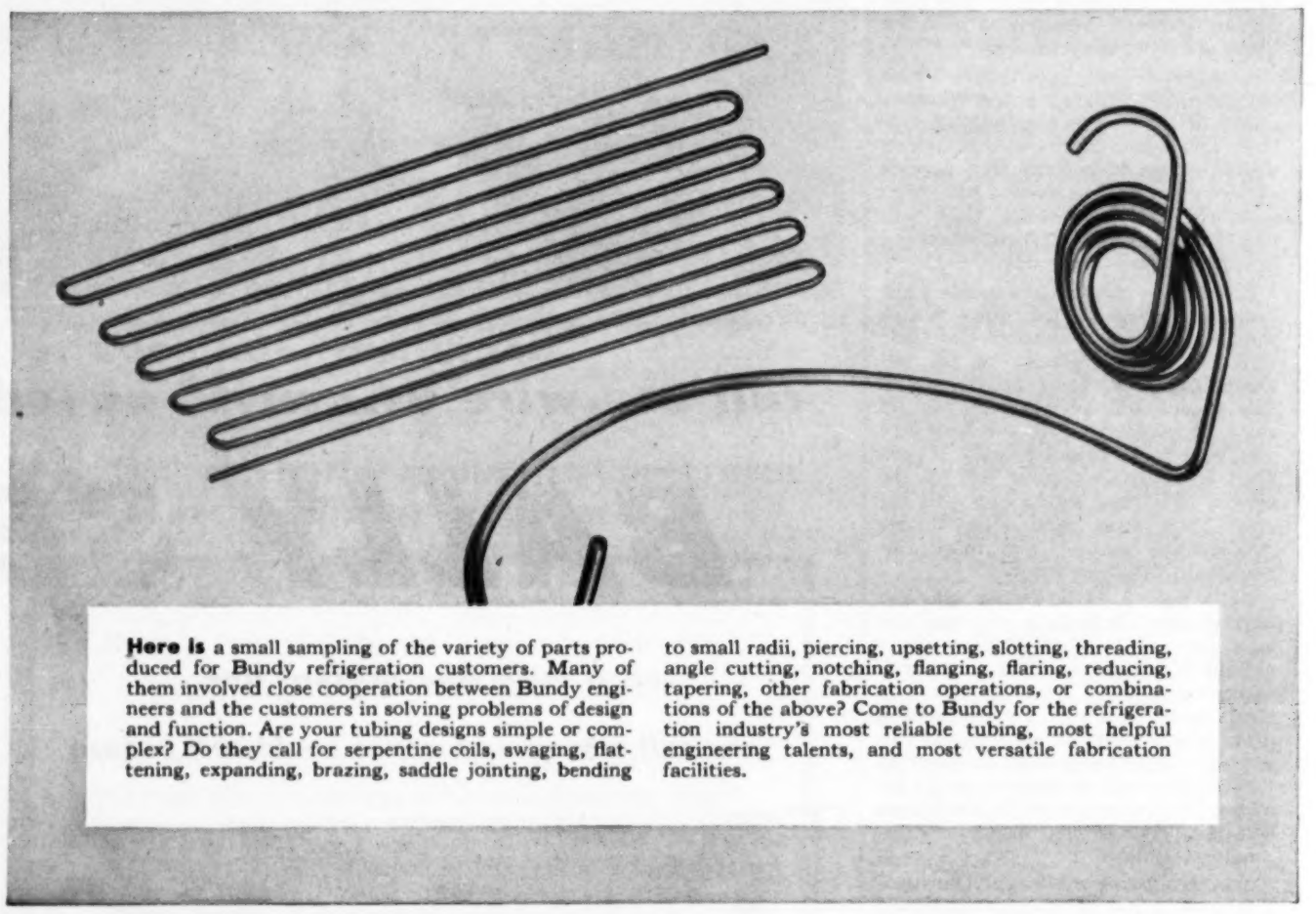
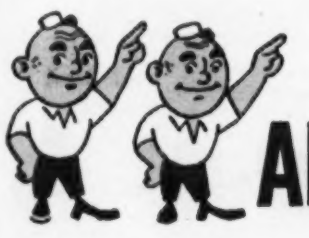


Here is a small sampling of the variety of parts produced for Bundy refrigeration customers. Many of them involved close cooperation between Bundy engineers and the customers in solving problems of design and function. Are your tubing designs simple or complex? Do they call for serpentine coils, swaging, flattening, expanding, brazing, saddle jointing, bending to small radii, piercing, upsetting, slotting, threading, angle cutting, notching, flanging, flaring, reducing, tapering, other fabrication operations, or combinations of the above? Come to Bundy for the refrigeration industry's most reliable tubing, most helpful engineering talents, and most versatile fabrication facilities.



Almost no limit to what we can do for you with Bundyweld Tubing

WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld, double-walled and brazed through 360° of wall contact.

NOTE the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

Bundy Tubing Distributors and Representatives: *Cambridge 42, Mass.:* Austin-Hastings Co., Inc., 226 Binney St. • *Chattanooga 2, Tenn.:* Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Philadelphia 3, Penn.:* Rutan & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave. South *Toronto 5, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., E. • **Bundyweld nickel and Monel tubing is sold by distributors** *of nickel and nickel alloys in principal cities.*

YOU CAN'T BEAT THE VICTOR

BEVERAGE COOLERS

Fast, efficient cooling

The work-horse of beverage coolers

Sizes:

12, 22 and 32 case capacities with self-contained units.

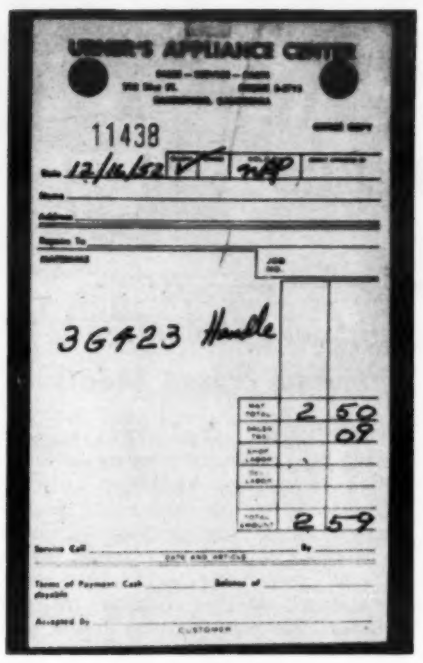
17, 27 and 37 case capacities for remote installation.

A FUNKHOUSER INDUSTRY

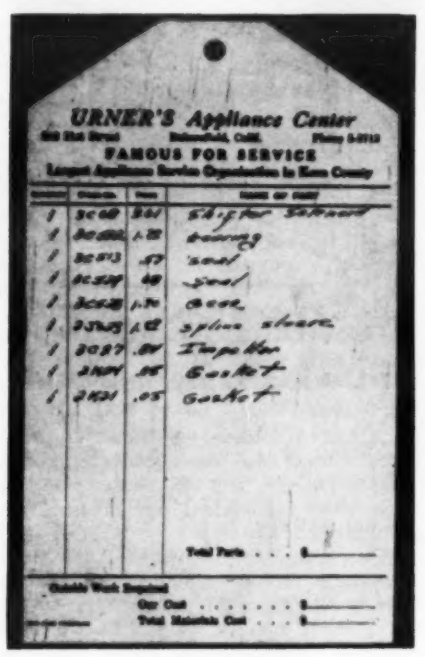
For information write:

Victor PRODUCTS CORPORATION HAGERSTOWN, MARYLAND

MANUFACTURERS OF THE FAMOUS VICTOR QUICKFREEZE



Urner's sales ticket.



Back of work card.

Repair Parts Handling System

(Concluded from preceding page)

so frequently that our men do not need the aids which I have just described.

"At the end of the day all parts are listed on a tally sheet. This sheet is organized by sections and bin numbers and is easily filled out. The row of numbers on the side is a list of shop jobs that passed through the office on that day. Parts from these jobs are also listed on the tally sheet."

Another slide showed Urner's battery of four "Kardex" files where perpetual inventory cards are filed. Colored tabs are used to indicate that parts are to be ordered, have been ordered, have been back ordered, etc.

Pictured next was an individual card.

"On this card, by a code system, we indicate not only the manufacturer's part name and number and our number, but all inventory information—when to order, the quantity to order, the date and number of each order, when each part was sold, and our inventory at the end of the year," Urner said.

"Thus our stock is kept in balance, barring mistakes, which of course do happen at times in any shop," Urner continued.

"Note that even though we only order two of these parts at one time, it is essential to keep complete information so that this part is on the shelf when called for."

BACK OF WORK CARD SIMPLE TO FILL OUT

The next picture showed the back of one of Urner's shop work cards.

"Notice," he stressed, "that the workman need only put down the stock number and the price to designate positively the article used. Descriptions or names may confuse. Our own stock numbers nail down the identification solidly."

Also shown was an order form filled out.

SIMPLIFIES TAGGING AND STOWING

"On the right we put our own stock numbers and the price," Urner said. "This information, of course, comes right off the inventory card and it simplifies tagging and stowing parts on arrival.

"These are the highlights of the system we have working today. It is not perfect, of course, but it is fundamentally sound and I would hate to run a parts department without it."

Answering questions from the audience, Urner said that two men work in the parts department and that the company does a $50,000-a-year parts volume, selling both to consumers and other dealers.

Penn Controls Road Show Scheduled To Make Swing Through Western States

GOSHEN, Ind.—A new series of Penn educational shows, designed as a service to heating and refrigeration engineers and servicemen, will begin in Albuquerque, N. M., on March 2 and travel through several western states, according to R. H. Luscombe, general sales manager of Penn Controls, Inc.

This show was created to give a dramatic visual demonstration in the use, construction, installation, and servicing of automatic controls. Included in the equipment are giant controls which actually operate, colored slides, charts, and operating systems demonstrators.

SHOWS STARTED 18 YEARS AGO

More than 18 years ago, the company pioneered demonstration shows with the objective of improving service to the consumer by giving instructional aid to the servicemen.

On similar tours, covering the entire eastern half of the United States during the past two year, attendance at the Penn meetings outstripped all advance estimates by 50 to 60%.

Although the current show is patterned after previous ones to some extent, it includes new visual demonstration equipment as well as the latest current information and service helps and it is expected to be even more beneficial to the trade.

Meetings are being arranged and sponsored in each city by local jobbers of Penn Controls. According to Luscombe, each meeting will give the most thorough demonstration of controls possible in a single evening. After the regular session, individual installation problems will be discussed.

SCHEDULE OF PERFORMANCES

At present the Penn "traveling" heating control show is scheduled to appear in the following cities: Albuquerque on March 2; El Paso on March 5; Phoenix on March 10; Los Angeles on March 16; Oakland on March 23; Portland on March 30; Seattle on April 1; Victoria, B. C., on April 6; Vancouver, B. C., April 7; Spokane on April 13; Salt Lake City on April 16; Denver on April 20; Wichita on April 23; Kansas City on April 27.

The "traveling" refrigeration control show is scheduled to appear in the following cities: Albuquerque on March 3; El Paso on March 6; Tucson on March 9; Phoenix on March 11; San Diego on March 13; Los Angeles on March 17; Fresno on March 19; Oakland on March 24; San Francisco on March 25; Sacramento on March 26; Portland on March 31; Seattle on April 2; Vancouver, B. C., on April 8; Spokane on April 10; Salt Lake City on April 17; Denver on April 21; Wichita on April 24; Kansas City on April 27.

G.M. DeJarlais Opens Hermetic Unit Repair Station In Dallas

DALLAS, Texas—A hermetic refrigeration repair station operating as Acre Service with facilities for processing to factory specifications has been set up here by G. M. DeJarlais.

This activity includes factory "in warranty" repair of Fedders, Remington, Crosley, and RCA room air conditioners from the southwest.

The units being repaired travel over roll conveyor to the various operations which include analysis of failure, refrigerant system repair, steam-detergent cleaning, electronic leak detection (G-E type H detector), infrared lamp heat panels, Kinney-DPI diffusion pump—high vacuum system, five-station electric vacuum gauge, refrigerant and oil charging, constant temperature inspection room, and refinishing.

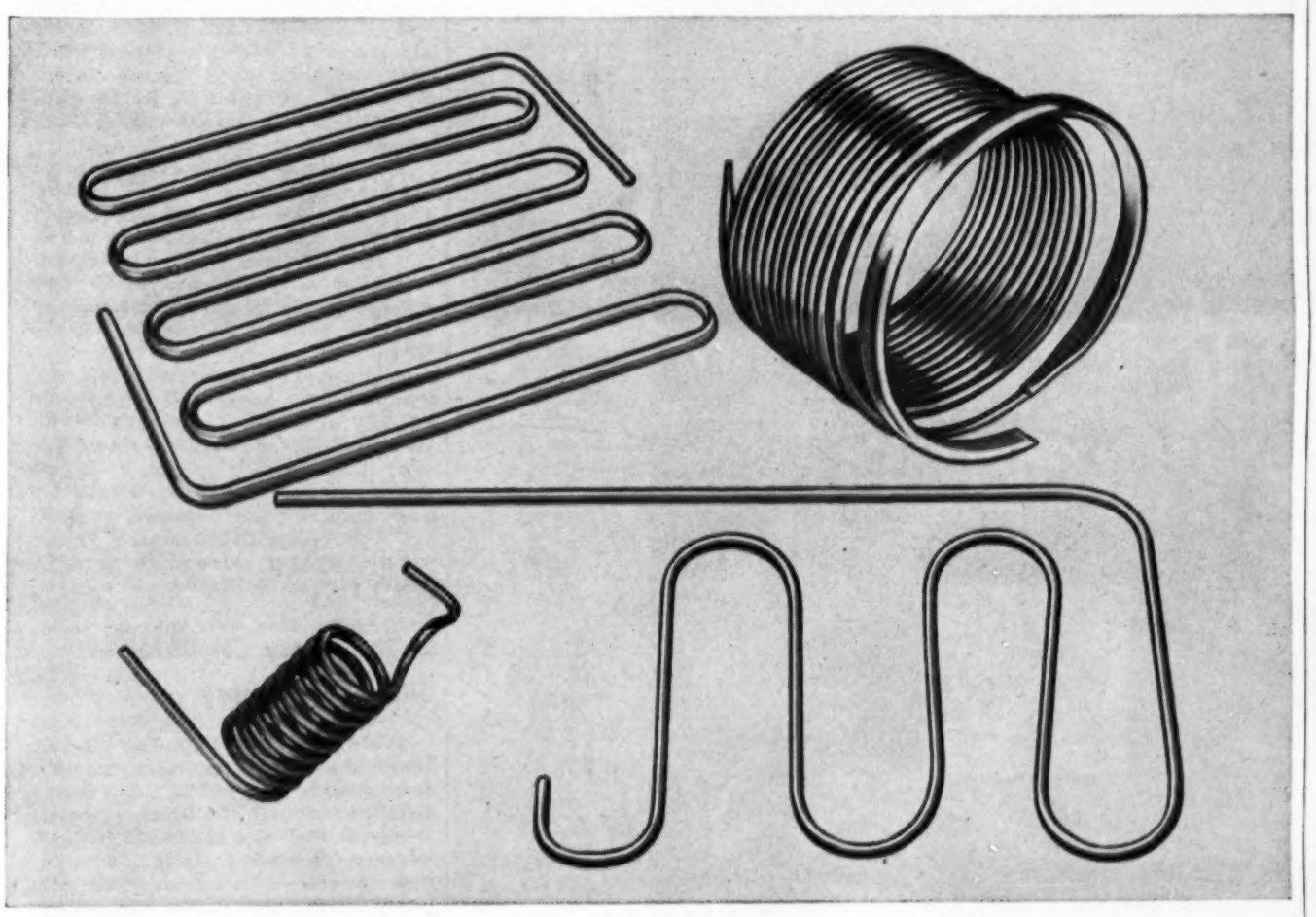
Quick connective couplers are used to minimize the time in transferring from one operation to another.

DeJarlais is a licensed professional engineer with 15 years' experience in refrigeration and air conditioning. Previous employment has been with The Trane Co., Seeger Refrigerator Co., and Fedders-Quigan Corp.

C. C. Monde and Miss Ruth Winfield, both previously associated with the Fedders service operation, are acting in supervisory capacities.

Utica Appliance Store Opened

UTICA, N. Y.—Blastin's appliance store has been opened at 96-98 Genesee St. by Ralph Blastin, Jr. who has been in the appliance trade for the past 15 years. The store building has been completely remodeled and has 9,000 sq. ft. of floor space.



It almost goes without saying that you can't beat Bundyweld for leak-proof, dependable performance in your compressor and evaporator coils and refrigerant lines, and in other tubing lines throughout your refrigerators and freezers.

But you get more than peace of mind with Bundyweld. For instance, you tap a wealth of fabrication facilities and engineering skills.

Do your tubing part designs call for difficult fabrication operations or easy ones? Do the designs call for unusual combinations of operations? Do they create problems that may seem unsolvable?

If your needs call for a tubing part that is at all produceable, you can count on us to do the job—exactly to specifications at lowest possible cost. But say it isn't produceable. What then?

Just this. Bundy engineers who know their Bundyweld and refrigeration tubing problems inside and out will work with you personally until problems turn into solutions. **This help** and teamwork pay off in time and trouble saved. And such a pooling of specialized skills—yours and the Bundy man's—frequently pays off in lowered material costs and lowered production costs, too.

What if *your* company is geared for low-cost fabrication? Wonderful. You can count on us to ship clean, carefully inspected Bundyweld on time and in specified straight lengths. Of course, you can still summon all the engineering help you can use.

For tubing that's the standard of dependability, for fabrication facilities and engineering talents devoted to producing better tubing parts at lowest possible cost, come to Bundy, headquarters for small-diameter tubing.

BUNDY TUBING COMPANY • DETROIT 14, MICHIGAN

Bundyweld® Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

Move in Front with Mouldings by...
JOHN LEES
MOULDINGS, STAMPINGS, ASSEMBLIES.
Complete Facilities for Buffing, Electrolytic Polishing, Welding, Forming and Aluminum Anodizing.
Functional and decorative mouldings by JOHN LEES will give your product that extra eye appeal which makes it stand out wherever it is displayed. That means more sales. Let us supply you with standard mouldings or manufacture to your specifications. Recommendations furnished without obligation. Write for catalog.
JOHN LEES
DIVISION of THE SERRICK CORPORATION
Kilgore Avenue, Muncie, Indiana, U.S.A.

Freezer Owners Save $7 to $105 a Month, Survey Finds

(Concluded from Page 1)

comparison of wholesale and retail meat prices, ran as high as 50% of total food bills."

Major methods of saving were given as: wholesale meat purchasing ("Sometimes we buy a whole pig or 20 lbs. of hamburger."), seasonal fruits and vegetables, special bargains, bakery goods (day-old bread), game, fish ("very cheap on Friday and Saturday nights"), leftovers, homegrown produce, and poultry.

Some verbatim comments of the owners reporting (66%) were:

"We're eating now on the same amount of money we used for groceries three years ago. We certainly couldn't do that without our freezer. Estimate savings at $25 per month."

"We were very surprised to note the drop in our food bills after we got our freezer."

"Husband says freezer paid for itself in a year's time."

"We kill a hog and 25 chickens at a time and put them in our freezer."

"Save about $35 per month."

"Our budget is about the same as before we got the freezer, but we are eating better on the same money—steak instead of hamburger."

Said Hotpoint: "Present in almost all opinions of the money-saving function of a freezer, regardless of how much was realized, was the idea of convenience.

"Repeatedly owners remarked that while it was true their freezers saved them money, the thing that had impressed them most was the convenience of having ample supplies of meats, vegetables, fruits, pastries, and poultry on hand.

"They said wrapping and packaging of foods to be stored in their freezers took little time or work compared to canning and preserving methods previously used."

A statistical breakdown of these convenience versus economy comments showed that 88% of all freezer owners rated convenience first in advantages of owning this appliance.

"Only 43% thought economy important, giving more importance to convenience and better living. Economy advantage figures vary from 40% in cities to 47% in suburban areas and 50% in rural and farm districts."

Other major divisions included in the Hotpoint freezer study were occupations and incomes of owners, reasons for buying and installing a freezer, opinion of operation and design, types of food stored and money saved, and a general appliance picture for each family. Included in this latter category were other appliances owned and appliances wanted next.

"This study revealed," the company stated, "that three major changes in the basic living pattern of a family take place with the introduction of a freezer into the home:

"Short-term, small quantity buying changes to long range, quantity seasonal, and 'bargain' buying.

"A homemaker's cooking pattern changes to quantity meal preparation, quantity baking, greater saving of leftovers, and the complete abolition of home canning.

"A family's eating habits change to include more seasonal foods out of season, better cuts of meat, greater meal variety, consumption of more frozen than canned foods, and consumption of more ice cream."

Frozen Food Cook Book Introduced by Amana

AMANA, Iowa—A new 64-page frozen food cook book, containing 365 freezer menus and 87 freezer recipes, has been introduced by Amana Refrigeration, Inc.

Prepared by Barbara Johnston, Amana's home economics director, the book offers 17 continuous weeks of freezer menus. In addition to the regular menus, the book contains holiday and party menus, and 42 time-saving freezer "Tips and Tricks."

Copies of the cook book may be obtained from Amana for 25 cents.

Bill Seeks Slaughterer's Stamp on Frozen Meats

CHEYENNE, Wyo.—Cold storage locker plant operators would be compelled to require execution of certain papers before they could accept certain meats for processing, quick freezing or cold storage, under terms of a bill introduced in the 1953 state legislature. Meats covered by the measure are beef, mutton, lamb, and pork.

The meat would have to carry a stamp or tag indicating a lawful slaughterer, or a certificate would have to be filled out in the operator's presence, containing similar information.

The bill provides penalties of $25 to $100 fine for making a false statement or other violation of the act.

2 Starter Kits Designed For New Freezer Owners

CINCINNATI—Two new special "starter" kits of freezer packaging materials for use by food freezer owners has been announced by Mehl Mfg. Co., Div. of the Sydney-Thomas Corp.

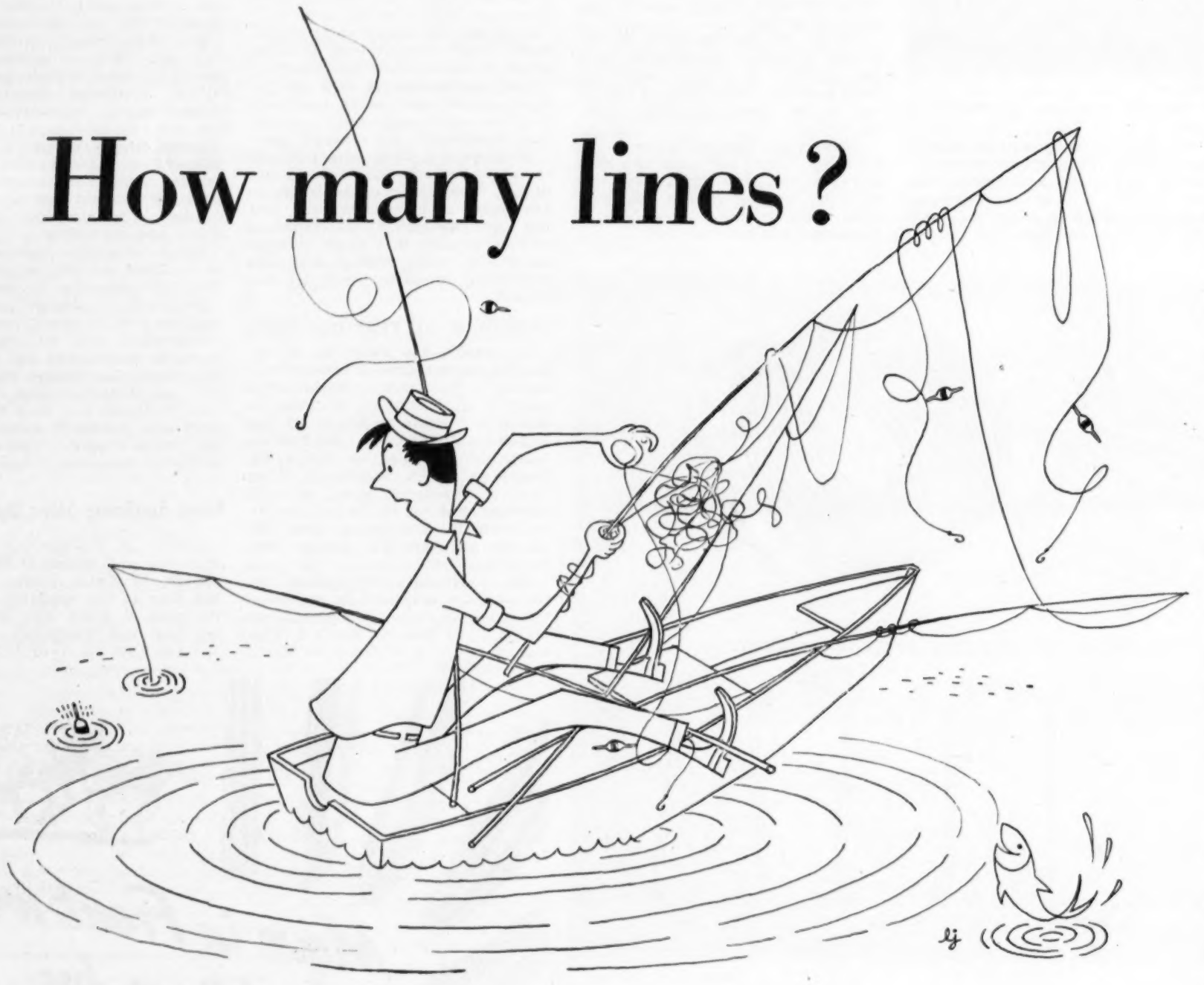
Kits are designed so that customers can buy one package which includes all freezer packaging materials when they buy their new freezers. Directions and materials a homemaker would need to begin packaging foods are available in the kits.

A variety of freezer cartons, polyethylene bags, plastic boxes, poultry bags, and aluminum foil are among the items included. Closures, a marking pencil, freezer tape, an ice cream scoop, 50 sucker sticks, funnel, and a 32-page manual describing proper freezing methods are the other items in the kit.

Kits are available in two sizes. The smaller has a suggested retail price of $10 and the larger, $20. Basic items in both kits are the same except that larger quantities of all items are provided in the larger kit plus ascorbic acid capsules, a 35-ft. roll of polyethylene-coated kraft wrapping paper, extra marking leads, and a package of food-saver bags.

B. H. Spinney Co. Observes Silver Anniversary

SYRACUSE, N. Y.—The B. H. Spinney Co., Inc., appliance distributor, observed its 25th anniversary here recently. B. H. Spinney, president, cut the cake at the silver anniversary celebration.



There is a growing tendency on the part of furniture and department stores to concentrate their sales efforts on fewer major appliance lines.

We think this is good business.

Fewer lines mean more efficient operation throughout the store. Salesmen sell better when they know a lot about a few lines, rather than a few things about many lines. Advertising and display problems are simplified. Departmental space is better utilized and much more effective. Turnover is increased, investment lowered, and service problems are remarkably reduced.

This means bigger profits and more satisfied customers—two of the principal goals of any establishment.

Here are some of the reasons why Frigidaire fits into such a program: Frigidaire is a leader in brand preference and brand acceptance. Frigidaire Products are well made, and well liked by prospects and customers. Frigidaire offers a complete major appliance line. Frigidaire's advertising and selling policies are fair, thorough and above board. And Frigidaire's realistic service policies simplify handling of service problems.

When you have considered all these things, we know you'll agree that the Frigidaire franchise is the most valuable franchise in the appliance industry today.

Frigidaire Appliances

CLEANABLE
WATER-COOLED
CONDENSERS
More Efficient Double-Tube Counter-flow Design

½ to 25-Ton Capacity

Acceptance in the field is rapidly changing to "Demand" for these efficient, more economical Cleanable water-cooled Condensers. Owners and service men prefer the "new unit" efficiency that can always be maintained by a simple cleaning process. Brass headers, machined and brazed.

Write for Catalog and Prices

WHOLESALERS IN PRINCIPAL CITIES

Halstead & Mitchell

BESSEMER BLDG. PITTSBURGH 22, PA.

Panel Discussions Planned For Frozen Food Conclave In Chicago, March 1-4

CHICAGO—Plans are now being put into final form for the 1953 National Frozen Food Convention, scheduled to be held here from March 1 to 4, according to C. L. Snavely, convention chairman.

The National Association of Frozen Food Packers is sponsoring four panel meetings, covering trends in packaging, cost factors in production, transportation rates, costs and equipment, and technical problems in grades and quality control.

Wholesale distribution of frozen foods will also receive attention at panel meetings being arranged by the National Wholesale Frozen Food Distributors. The art of selling frozen foods will be the subject of one of the panels, and the problem of distribution costs will be analyzed at another.

In addition, the distributor group is sponsoring five separate regional meetings, running concurrently, to provide a backdrop for full discussion of industry problems in various parts of the country.

Another convention feature will be "Operation Zero," a luncheon and panel discussion of frozen food warehousing problems. This meeting is to be sponsored by the National Association of Refrigerated Warehouses.

Social events include an industry cocktail party, an industry luncheon to be addressed by Dr. Neal Bowman of the National Association of manufacturers, and the grand banquet.

Numerous committee and boards of directors meetings as well as the annual meetings of the participating associations are also scheduled.

Mitchell Starts 1st Big Consumer Ad Campaign

CHICAGO—For the first time in its history, the Mitchell Mfg. Co. is launching a full scale national advertising schedule in the leading consumer magazines, it was announced by Howard Haas, advertising and sales promotion manager.

Scheduled to break at the end of February, this program will feature an ad in a major weekly or monthly publication every week through the end of June. Publications to be used include *Life, The Saturday Evening Post, Time, Newsweek,* and *Better Homes & Gardens.*

Ads are keyed to emphasize Mitchell's new Dyna-Heat feature, a heating element that enables the air conditioner to heat as well as cool a room.

In explaining the 1953 ad campaign, Haas said: "Completely new approaches to air conditioning advertising have been put into practice this year. We are beginning our program months earlier than any other manufacturer whose selling season traditionally starts in June.

"In addition, through the use of color, we are blending our ad appeals from one season into the next."

Haas explained that the winter ads will appear in red—a warm color which is used in a picture of a room being heated by the Mitchell unit. Spring and summer ads will appear in blue—a cool color which is used in a picture of a room being cooled by the Mitchell unit. Interim ads are planned as black and white.

In the winter ad, a small inset of the summer ad appears and the reverse is the case with the summer ad.

IDEAL
Speed-Freeze
PRODUCTS
BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS.
(With Refrigerated Faucets)
WRITE
IDEAL COOLER CORPORATION
2953 EASTON AVE. • ST. LOUIS 6, MO.

F. L. Riehle Dies In Buffalo, Was Frigidaire Branch Mgr.

BUFFALO — Frank L. (Duke) Riehle, 64, branch manager of Frigidaire Sales Corp. here for the last 20 years, died Jan. 13. He was said to be the oldest employe, in terms of service, with Frigidaire, having been associated with the company since 1911.

During his long career with Frigidaire, he served as branch manager for a number of its offices. He was European branch manager for five years in the Berlin and Genoa offices.

Upon his return from overseas assignment, Riehle became eastern regional manager for the Atlantic seaboard and held that position until he came to Buffalo in 1933.

Midwest REWA To Meet In Kansas City on Feb. 7

KANSAS CITY, Mo.—A day-long meeting of the Midwest Refrigeration Equipment Wholesalers Association will be held in the President hotel here on Feb. 7, starting with breakfast at 8:30 a.m.

A closed morning meeting, luncheon with manufacturers, an open meeting in the afternoon, and a closing cocktail hour have been planned.

Freezer Prices To Change Ike's Mind on Controls?

NEW YORK CITY—If the Eisenhower administration decides to hang on to price controls instead of remove them as some people expect, appliance servicemen and the home freezer industry spokesmen might share the responsibility for that decision.

The *Wall Street Journal* recently pointed out that "economic planners in the new administration, giving the price picture a hard look, privately temper the widespread talk of summarily slaying all curbs on consumer prices.

"Instead, some favor recommending 'standby' authority to continue controlling, with a promise to lift ceilings wherever possible."

The business paper said that this cautious attitude grows out of a hard pushing against ceilings by a number of products and services, both non-consumer and consumer. In the latter category it specifically mentioned home freezers and repairs on home appliances.

The article concluded, "It's the consumer goods that worry politically minded Ikemen. They fear a sudden spurt in the price of 'necessities.'

"Says one: 'The Democrats would shout to high heaven.'"

Pricing Regulation for Establishing Markup on New Items Changed by OPS

WASHINGTON, D. C. — A new change has been made in the General Ceiling Price Regulation to reduce inequities in the establishment of markups on new commodities, the Office of Price Stabilization announced recently.

Amendment 39 to GCPR applies to wholesalers and retailers, subject to the GCPR, who handle a new commodity which falls into a category dealt in during the base period.

Before the amendment became effective on Jan. 19, the distributors were required to select the markup of a comparison commodity to establish the markup for a new commodity, without regard to whether or not the new commodity was acquired from the same class of supplier as the comparison commodity.

For example, a wholesaler of electric ranges formerly bought from a larger wholesaler or distributor and now buys direct from the manufacturer. In changing his source of supply of electric ranges, he has incurred additional costs for warehousing, advertising, and freight.

His markup for the new electric ranges, established as the markup of an electric range bought from a distributor, does not take into account his higher distribution costs.

The opposite effect on a wholesaler's or retailer's markup on a new commodity would occur if he formerly bought direct from a manufacturer and now buys from a wholesaler.

This amendment provides that the markup for a new commodity, derived from a comparison commodity, must cover purchases from suppliers of the same class, thus eliminating inequities as to squeezed markups or over-generous markups, OPS pointed out.

Anderson Elected President Of Washington Contractors

SEATTLE—Carl A. Anderson has been elected president of the Refrigeration Contractors Association of Washington, it was reported here recently. Other new officers are W. C. Stone, vice president, and Charles Snorsky, secretary-treasurer.

Buffalo Firm Files Name

BUFFALO—A business name has been filed in the Erie county clerk's office for Estate Furniture & Appliance, 199 Mills St., by Armand Panek and Alfred Wojcicki.

5 WAYS TO
save
with ALCO 402
Thermo Valves
IN
ALCO
OUT
SAVE SPACE – Squeezes into tight spots.
SAVE INSTALLATION TIME – Liquid charge permits quick mounting in any location, any position.
SAVE SERVICE TIME – Simple construction with all adjustments sized for standard service wrench. Removable strainer for two-minute cleaning.
SAVE MOTORS – Separate pressure limiting element prevents overload.
SAVE MONEY
These thrifty features add up to big dollar savings for you and your customers.
ALCO 402—THE SMALL-FIXTURE VALVE—ENGINEERED FOR SERVICE ENGINEERS
402-1 — up to ¼ ton "F-12" or ½ ton Methyl Chloride
402-2 — up to ½ ton "F-12" or 1 ton Methyl Chloride
402-4 — up to 1 ton "F-12" or 2 tons Methyl Chloride
ALCO
SEE YOUR ALCO WHOLESALER
Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.
ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.

They'll Do It Every Time . . . . By Jimmy Hatlo

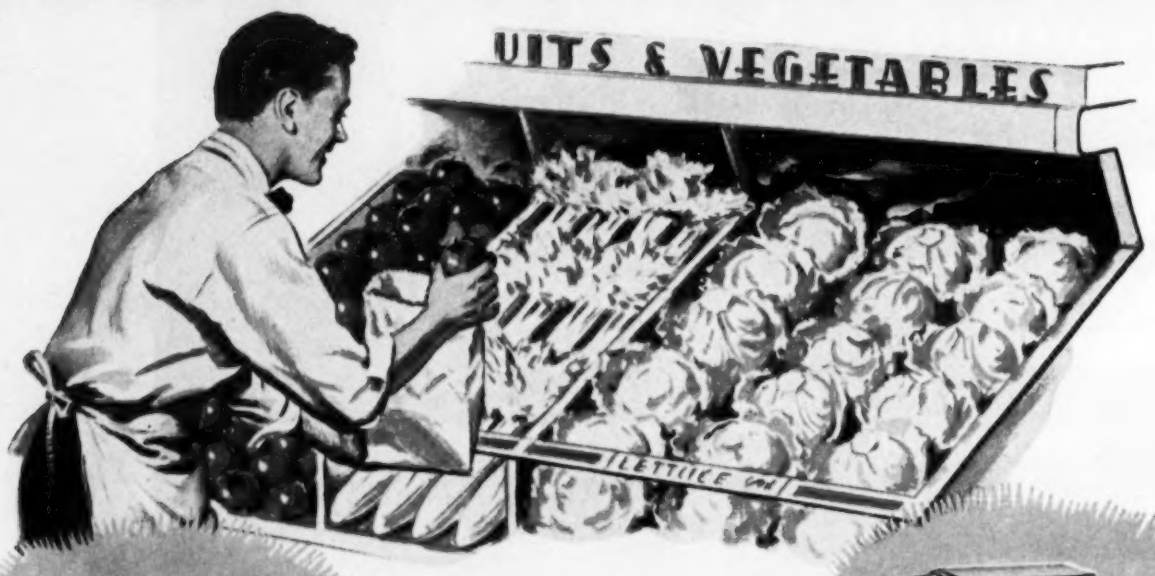
TODAY, CHILDREN, PROVERBS! THE FACTORY MACHINE-SHOP FOREMAN SEZ, "AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE."
CAN'T WE FIX THAT NUMBER 3 PRESS? SHE WAS DUE FOR AN OVERHAUL A MONTH AGO! ONLY TAKE ABOUT A DAY, AND THE MACHINE GANG'S NOT TOO BUSY RIGHT NOW!
NO-NO-SORRY, HUGO! LOOK AT THIS BATCH OF ORDERS! WE COULDN'T CLOSE DOWN FOR EVEN AN HOUR!
THANX AND A HATLO HAT TIP TO C.R. SALISBURY, 30 SPENCER RD., GLEN RIDGE, N.J.
JIMMY HATLO
BUT-TAKE THE PRODUCTION SUPERINTENDENT (AND YOU CAN TAKE HIM). HE SEZ (WE QUOTE) "ROME CAN BE BUILT IN A DAY!"
BUSTED? YEH--BUT YOU'RE A MECHANICAL GENIUS! WHY, YOU CAN GET HER RUNNING AGAIN IN HALF A DAY OR SO--CAN'T YOU, HUGO? OLD BOY, OLD PAL, OLD BOY....
WHA-AT? HALF A DAY? IT'LL BE THREE WEEKS BEFORE WE CAN GET NEW PARTS HERE--AN' I GOT THREE MACHINISTS IN THE HOSPITAL NOW....
10-20
COPR. 1952, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED.

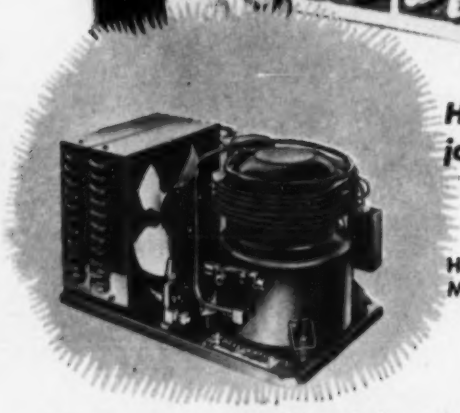
Have You READ 'Peace and Progress' Yet?

When your business depends on Cold

YOU CAN DEPEND ON

Kelvinator!

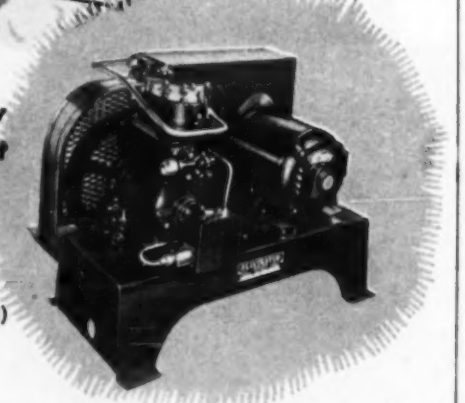




Heavy-duty job or light-duty job, Kelvinator has just the right unit to satisfy it

Hermetic Model Model 6D2CRA (½ H.P.)

Open-Type Model Model O-75 (¾ H.P. Air Cooled)



DRIED OUT, unappetizing fruits and vegetables mean dollars out the window for produce market operators. That's why alert owners not only have cold rooms for storage, but also *refrigerated display racks* . . . both powered by Kelvinator. People who depend on cold for profits put their faith in Kelvinator, because Kelvinator has proved itself over and over again for 38 years. The 1953 Kelvinator condensing units—both hermetic and open-type—are the most up to date and most efficiently designed in the field.

No matter what your refrigeration requirements may be, Kelvinator has a unit to satisfy them.

You have 30 models to choose from—15 hermetic units (including 4 new Freon-22 units), up to ½ H.P. . . . and 15 open-type units, from ¼ H.P. up to 5 H.P. For full information, contact your Kelvinator distributor, or write Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

For Profit Today . . . Tomorrow . . . and Always . . .

Depend on Kelvinator

SPECIALISTS IN REFRIGERATION SINCE 1914

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered U. S. Patent Office; Est. 1926

AIR CONDITIONING AND REFRIGERATION News

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F. M. COCKRELL, *Founder*

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924.
New York office: 521 Fifth Ave., Telephone Murray Hill 7-7158.
Chicago office: 134 S. LaSalle St., Telephone Franklin 2-8093.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $5.00 per year; 2 years $8.00. All other foreign countries: $7.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Please send remittance with order.

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VOLUME 68, NO. 5, SERIAL NO. 1,246, FEBRUARY 2, 1953

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

New Vistas for Engineers And Purchasing Agents

FOR TOO MANY YEARS our industry has been stunted . . . by a lack of the basic materials needed to produce all the goods people have demanded of us.

During World War II we could produce little for our domestic customers. In the hectic postwar period everyone tried to catch up with postponed wants and needs. So materials still were "tight." Early in 1950 we entered a buyer's market briefly. Come Korea, the allocations again.

A great many younger engineers and purchasing agents never have experienced a time when it was easy to obtain any or all the materials their factories needed.

This situation is changing.

And there are several reasons.

First and foremost is the fact that our economy is shifting from a sellers' market to a buyers' market for the first time (save for brief moments) in *twelve years.*

Almost equally important is the fact that sources of supply have been expanding rapidly and enormously.

Take aluminum. You couldn't beg, buy, or steal it not so long ago. But now, aluminum salesmen are campaigning for orders. Growth of the aluminum producing industry has been fantastic. It's up 1,700,000 tons a year, and an additional 400,000 tons of annual output is in the works.

Take electric power. Its output has expanded by 117 million kilowatts annually. And gas and oil power (plus delivery through added pump lines) has leaped astoundingly, also.

Take steel. Within the last two years the steel industry has added 13,000,000 tons of capacity. A year from now this basic industry will be able to supply manufacturers with 123,000,000 tons of steel any and every year.

Take copper. Abandoned mines are being reopened in the United States. And more can be imported, since the controllers have "seen the light."

Take rare elements. Exciting new metals, from magnesium and titanium to lithium and germanium, are being produced in sizeable quantities for the first time in history. Their possibilities are beyond prediction.

Take insulation. Manufacturers of insulation are feeling the pinch of competition. Newcomers to the field are catching the attention of purchasing agents, and there is more than enough to go around.

Take it all in all, engineers, inventors, and purchasing agents are being freed of their shackles. From now on they can *have fun,* and do the *particularizing* job they've long been wanting to do for the people who employ them, and for consumers, too.

Instead of wooing salesmen, purchasing agents will make them *dig* to keep the business they now have.

"Slants on Service" is a "package" devised by the NEWS to aid readers in the service and contracting business.

Watch Rotation, Voltage When Installing Shaded Pole Motors

There isn't much that can go wrong with shaded pole motors except bearings and shorted or open windings, says a motor service expert. The principal things to watch in installing them are rotation and voltage. If the motor is to be operated in any position other than horizontal, it should be ball bearing equipped.

About the only thing that could happen to a three-phase motor, he notes, would be for the winding to go bad, the copper bars in some types of rotors to come loose, or the bearings to go bad.

* * *

Data Shows Normal Cooling Of 2 Philco Window Units

To aid servicemen in determining whether its 80JS and 80JL models of window air conditioners are operated normally, Philco Corp. has released data showing the amount of cooling these units should produce under certain air conditions.

In using this test all dampers must be closed so that no fresh air is admitted and no room air exhausted. If the unit has an automatic temperature control, this should be set on No. 6 position.

Checking a unit with this data involves determining both the dry bulb and wet bulb temperature of the air entering the evaporator, as well as the dry bulb temperature of the air leaving the evaporator.

The difference between the entering and leaving dry bulb temperature should fall between the range shown in the table for the given conditions if the unit is operating normally.

Evaporator Air Inlet Temp.		Cooling Range Models 80JS, 80JL	
D.B. (°F.)	W.B. (°F.)	Min.	Max.
100	79	18	22
	75	20	24
95	79	16	20
	75	18	22
	71	20	24
	67	20	25
90	79	13	17
	75	16	20
	71	18	22
	67	19	24
85	79	9	13
	75	13	16
	71	15	19
	67	17	22
80	75	9	13
	71	12	16
	67	15	20
	63	17	22
75	71	8	12
	67	12	16
	63	14	19
	59	17	22
70	67	8	11
	63	12	15
	59	14	19

IT'S A GEM!

Dealers and users are excited about Gem Refrigerators . . . custom features, competitively priced, by a maker 30 years in the business. It's a terrific deal! Be a GEM owner, be a GEM dealer. Write today!

GEM REFRIGERATOR CO.
165 W. Wyoming Ave., Phila. 40, Pa.

Turn to "What's New" Page for useful information on new products.

Torrington Makes Welded Aluminum Slinger Rings

TORRINGTON, Conn.—Officials of the Torrington Mfg. Co. here report that their impeller division has begun production of welded aluminum "slinger rings" which adapt all popular sizes of assembled "AIRistocrat" fan blades to use as condenser fans for room air conditioners.

Dudley B. Robinson states that the company's method of rolling a ring from an aluminum strip permits a wide variety of welded ring diameters and eliminates costly tooling for various sizes.

While the rings and aluminum tabs with which they are riveted to the fan blades can be made for any diameter above 10 in., the rings usually are used with Torrington's 10, 11, and 12-in. fans. Those types achieve superior operating performance against pressure as required in air conditioning applications, Robinson said.

Keyes Gets Sales Post with Pittsburgh Plate Glass Div.

PITTSBURGH—Marcus W. Keyes has been appointed to the new position of sales engineer for Pittsburgh Plate Glass Co.'s Fiber Glass Div., according to Robert A. McLaughlin, director of sales for the division.

During the past 12 years, Keyes has been associated with the Kimberly-Clark Corp. as product development engineer. Earlier he had served as sales manager for the Insulation Div. of General Heat & Appliance Co. and with Johns-Manville Corp. as manager, acoustical construction.

Warranty Insurance Program--

(Concluded from Page 1)

A unit that proves defective during the first year of use is replaced with a new or rebuilt unit by the manufacturer without cost as customary. A unit, however, that goes bad during the second through fifth years is replaced by the parts wholesaler directly.

As with the usual first-year warranty, replacement of a unit does not extend the warranty period for another four years from the date of replacement. The period of time is the same as before.

The warranty applies only to the compressor or condensing unit itself and covers the original purchaser-user. Not covered are electric controls such as relay, capacitors, pressure control, or fan and motor assembly, receiver, etc., or (on open units) electric or gas motor assemblies or belts. Labor charges incidental to the replacement of parts are not included, nor does the warranty apply to any other part of the system to which the compressor is connected.

The liability of the parts wholesaler, under the terms of the extended replacement warranty, is insured, the insurance company reimbursing him for the full list price of the unit, less his normal discount.

On replacements the parts wholesaler does not make another premium payment to the insurance company on the unit installed to replace a defective unit.

A major requirement made of the parts wholesaler is stated in the policy endorsement as follows:

"On the first day of each quarter or as soon thereafter as is reasonably practicable, the named insured [parts wholesaler] shall furnish the [insurance] company with a written statement showing the number of units by sizes sold during the preceding quarter, on a monthly basis, together with the numbers of warranties issued. Thereupon premium shall be computed . . . and shall become due and payable immediately."

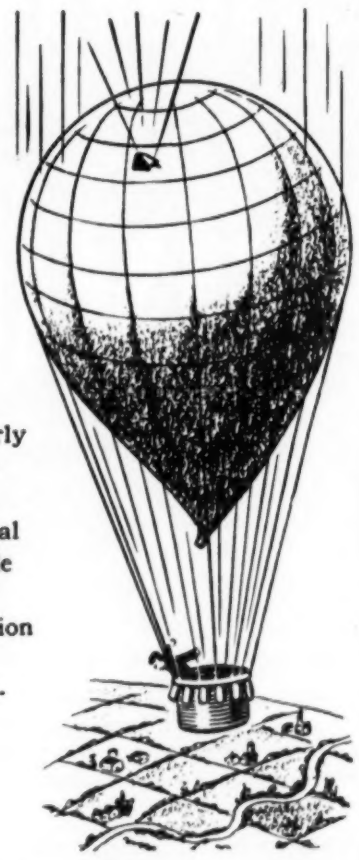
The need for accurate and prompt reporting of this information by the parts wholesaler is stressed by the insurance company.

The cost to the parts wholesaler ranges from approximately $2.50 per unit for the smallest sizes on upwards, varying with the size.

These wholesalers also believe this extended warranty could likewise be used as a sales feature by the contractor, who may or may not decide to pass along the warranty charge to his customer.

Such warranty insurance has been made available by Marsh & McLennan, Inc., the national insurance brokerage firm that was the original developer of the food spoilage insurance plans offered with home freezers. From their initial venture with food insurance, this old-line brokerage firm has gone on to placing warranty insurance for the manufacturer and now the wholesaler. While overall operations and supervision for geographical and practical reasons are from their office at Chicago, Marsh & McLennan's many offices throughout the United States and Canada function on the plan.

PRESSURE DROP *is important*



Excessive pressure drop through a poorly designed heat interchanger can offset all the gain to a system and do more harm than good. Exclusive longitudinal fins in all Heat-X interchangers provide for low pressure drop and high heat transfer, resulting in improved expansion valve performance, lessening of oil foaming troubles, and many other advantages contributing to a more efficient installation.

heat-x HEAT INTERCHANGERS

¼ to 10 TON interchangers are of the cast aluminum type with highly efficient longitudinal suction-line fins. Sized to match condensing units.

15 to 100 TON models of the shell and finned tube type are also constructed with exclusive Heat-X longitudinal fins providing maximum heat transfer at minimum pressure drop.

Write today for specifications and installation data.

THE HEAT-X-CHANGER CO., INC.
BREWSTER, NEW YORK

Taking the Stains and Strains out of DUPLICATING

Duplicating letters was a messy, tedious job in the '90's. If a girl was extremely efficient, she could turn out *five* copies per minute.

How different today—motor driven machines, featuring automatic inking and feeding, make *180 copies per minute* with ease!

Dramatic progress, such as this, has followed the motorizing of equipment used in business, in industry, in the home, and on the farm, too.

Throughout our 63-year history Emerson-Electric has been called upon by many of the nation's leading manufacturers to design and produce dependable, efficient motors for their applications.

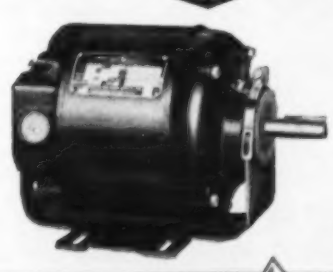
Get detailed information on how Emerson-Electric motors, in ratings from 1/20 h.p. to 5 h.p., can add new sales appeal to your product.

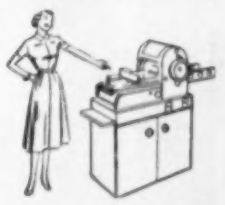
Write...THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

MODERN BUSINESS IS POWERED WITH ELECTRIC MOTORS

HERMETIC MOTORS
⅛ to 15 H. P.

We offer manufacturers of hermetically sealed units a broad background of engineering experience in hermetic motor design. We also have unequalled facilities for the production of hermetic motor parts. Co-operative engineering service available without charge. Write for Bulletin No. M171.





A. B. Dick Co., builder of modern Mimeographing equipment is a user of Emerson-Electric motors.

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

LEADERS IN THE MOTOR AND FAN INDUSTRY SINCE 1890

'Salesmen Lack Aggressiveness'

Shoppers Must 'Pump' Salesmen for Information and, Even Then, Often Don't Learn What They Want To Know, University of Minnesota Survey Shows

CHICAGO—"The enemy that inflicts the greatest number of sale casualties is the lack of know-how about the product and sales technique," in the opinion of Evelyn Determan, retailing and selling instructor, University of Minnesota.

"In order to combat this enemy," she advised retailers attending the recent annual convention of the National Appliance & Radio-TV Dealers Association, "find out directly from 'the battlefield' the specific weaknesses in the present sales force, and then do something about it.

"The simplest and best way to start is by a shopping or interview survey to find out how the present salesmen perform."

Lack of know-how, Miss Determan declared, "thrives among salesmen who considered themselves mighty successful back in 1947-50. Now that the customer doesn't snatch the merchandise from them, helplessness takes over. Deals and price cutting are not necessary where 'Service with a Purpose' commands the salesman's actions and words."

To support her argument, the speaker cited some of the results of a shopping survey conducted by a group of 58 students and sales people in the Minneapolis-St. Paul area.

SHOPPERS FOUND IT NECESSARY TO TAKE LEAD

She said the study disclosed, among other things, that salesmen in the stores visited were "pitifully non-aggressive and actually negative in their selling efforts . . . Instead of the salesmen taking the initiative in conversation, usually the shopper found it necessary to proceed."

It was also found, Miss Determan reported, that information on the product and its use "often did not reflect her needs or wants.

"Truly, these sales people acted very proud of their products and their shiny gadgets. But remember this—the customer wants to know what these gadgets will do for her . . . Who cares about the chrome content or steel in the gears?"

Another finding was that although the salesmen did a "rapid, smooth" job of operating the gadgets, "seldom did the customer have an opportunity to get her fingers on those gadgets and hence this slowed down the feeling of desire or possession . . .

Miss Determan continued: "The survey found that the weakest part of most sales was the close.

"Wonderful opportunities slipped by when the customer would and could agree on small facts, which makes the final 'I'll take it' decision easy to make. But nothing happened. He just talked on.

'GET THE CUSTOMER TO TALK'

"Get that customer to talk. She will give you the leads you need to close the sale."

The speaker then asked: "Why do salesmen act as though they must be subtle when introducing additional items for customer purchase? Usually such suggestions develop into a tremendous service to the customer. The customer wants intelligent suggestions."

Miss Determan pointed out that all shoppers were instructed not to buy but to indicate that they might in the future.

"The salesman who attempted to get a telephone number or some other means of follow-up was the exception rather than the rule," she said. "The salesman's greatest tool, the telephone, is dumb unless put into action. Why this lack of aggressiveness? Customers have a high regard for such services."

Analysis of the survey revealed, according to Miss Determan, that "training in persuasive selling would provide the sales force with a strength and power that would demolish the silly idea that 'sales people aren't necessary.'

"Of course they are necessary. That is, good sales people. The only reason the consumer has a tendency to prefer self-service is because of the interference she has to run when meeting the average salesman.

TRAINING PROGRAM SUGGESTED

"A short and long term training policy may make professional selling a respected and useful occupation. Training must be continuous—first, with those now serving; next, with the newly-inducted, and then, always with the staff retained after the deadwood has been removed.

"Releasing or changing the work of inefficient sales personnel can be a great service to all if done correctly."

In recruiting salesmen, the speaker suggested, dealers should "select people potentially strong in aggressive, fearless, leadership qualities and train them carefully. Don't put them to selling until they have the minimum know-how which constitutes more than most seasoned salesmen have . . .

"The staff need not be the vigor of youth. Why by-pass the person past 40 or 50—the most productive period of his life? An all-important customer-confidence factor easily develops between the customer and the older trained salesmen . . .

"Another nearly-untouched employe group is the women who after entering the field of appliance selling are smashing sales records."

Miss Determan admitted it's "a frustrating experience to discover excellent prospects who turn away from the selling job to what you know may be a less rewarding occupation, financially."

But, she emphasized, "remember they want satisfaction from their jobs . . . Prestige and acceptance by society is important. The super-jet types of salesmen who sold ice boxes to Eskimos are partly responsible for this low status of the selling occupation.

"Unethical selling instead of giving honest service is still being done and continues to give the selling profession a black mark. And then that great army of underpaid sales people in our retail stores are a symbol of substandard living that simply does not gain acceptance.

"Let us tell the world about the contributions of salesmen to our society and work to eliminate the evils of dishonest selling and underpaid workers. This form of long-term insurance is being done in the granting of 'Sammy' awards and other awards for jobs well done."

Coaching and training of the sales force should be a teamwork proposition, Miss Determan went on.

"Enthusiasm and information can be given to large gatherings . . . But every salesman needs to be shown by the master salesmen and on the selling floor with live customers . . .

"Then, enlist the cooperation of all sales people. Every salesman should serve as a master salesman to someone less able than he on some particular point. This opportunity to demonstrate his good points builds self-confidence."

Miss Determan concluded: "When paid well at a job that has all the earmarks of a socially acceptable occupation, the best people of the country will be knocking at your doors and you can become even more selective in recruitment."

LEFT: Close-up view of new store used by Briggs to house used appliance department. Moving these trade-ins from the basement of the main store boosted volume.

RIGHT: This view shows entire Briggs dealership. During opening week this small store sold $1,060 worth of appliances.

Moving Used Appliance Dept. Out of Basement Into Store Next Door Builds Sales Volume for Dealer

KINGSTON, N. Y. — Moving his used appliance department from his basement to a separate store built right next to his main store proved to be a sales booster for J. Ellis Briggs, president of the Briggs store.

During grand opening week, Briggs sold $1,060 worth of appliances. These included three washers, five ranges, five refrigerators, one stainless steel sink, and one water heater. Business is still growing, he says.

Briggs, Westinghouse dealer, advertises his used appliances, mentioning low price, 90-day guarantee, and an offer to allow full purchase price of the used appliance on a new one, even after a year's use.

The separate used appliance selling center is painted orange and blue and measures 30 by 18 ft. A sign across the entire front reads "Select Reconditioned Appliances" and "Guaranteed Value."

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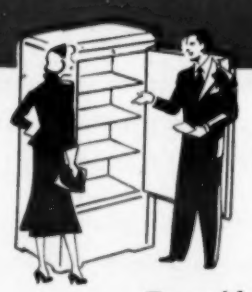
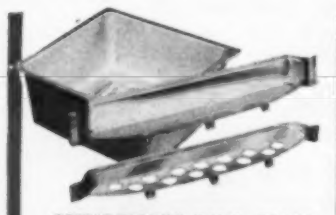


Vertical home freezer shelving represents still another contribution to the freezer and refrigerator industry by Reynolds Aluminum Fabricating Service. This shelving combines strength and rigidity with the many other advantages of aluminum . . . rapid heat conduction, freedom from rust and stain and attractive appearance. These important advantages add extra sales appeal to *your* freezer.

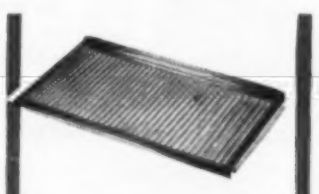
Reynolds high strength aluminum alloys are used in these shelves to insure maximum rigidity. Shelves are available in plain, anodized or alodized finishes and either embossed or plain surfaces can be specified. These shelves are shipped to manufacturers ready for fast, easy, economical installation in the freezers.

For rigid and easy to install home freezer shelving, as well as for the freezer and refrigerator parts shown below, rely on Reynolds Aluminum Fabricating Service for top quality. Reynolds engineers will be glad to work with you on your present needs, or on development work for future application. Contact your nearest Reynolds office listed under "Aluminum" in your classified telephone directory, or write Reynolds Metals Company, Parts Division, 2053 South Ninth Street, Louisville 1, Kentucky.

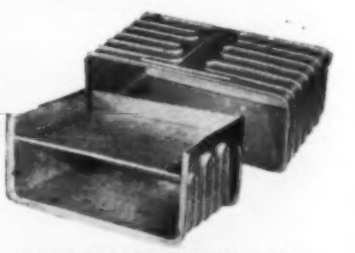
FREEZER LINER PANELS
Reynolds Aluminum embossed, alodized or anodized home freezer liner panels are shipped flat with tubing brazed in position for fast assembly.



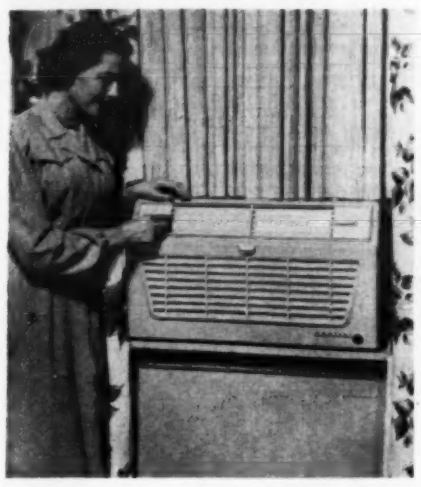
REFRIGERATOR PANS, TRAYS
Reynolds Aluminum crisper pans and bottle, dairy, egg and utility trays are produced with color-anodized trim to your specifications.



REFRIGERATOR SHELVING
Reynolds one-piece color-anodized aluminum shelving provides rigid construction plus a corrosion-proof and chip-proof finish.



REFRIGERATOR EVAPORATORS
Reynolds embossed and anodized aluminum refrigerator evaporators offer unequalled economy and efficiency in rapid heat conduction.



ADMIRAL'S 1953 room air conditioner extends only 3 in. into the room.

ADMIRAL'S 1953 portable moisture conditioner solves the dual problem of uncomfortably high humidity in the home in summer and excessively dry air in winter.

THE NEW 17-cu. ft. Admiral home freezer can store more than 600 lbs. of frozen foods and has baskets at both ends for odd-shaped packages. Dry wall construction is said to prevent sweating and a red signal light warns of power failure.

Admiral Appliance Line for 1953--

(Concluded from Page 1)

fingertip pressure and a new control panel "placed at the most convenient level for viewing and use."

The line includes three 40-in. ranges with the company's "Flex-O-Heat" switches, two 40-in. and one 30-in. models with seven speed rotary switches, and a 20-in. apartment-sized model.

Prices of the new products were not announced immediately.

According to Ted Nemes, Admiral sales manager for air conditioning, draperies or venetian blinds may be pulled over the new room air conditioner when it is not in use, as it extends only a few inches beyond the average window sill. "Silent operation" of the unit was also stressed.

The operating cycle cools, dehumidifies, circulates, ventilates, exhausts, and filters the air. Provision is made for the simple installation of an optional thermostatic control without removing the unit from the window, permitting automatic control of room temperature, Nemes said.

An aluminum filter can be removed easily for cleaning.

Each unit fits into a mounting cradle which can be installed in a few minutes in the window prior to inserting the conditioner, according to Nemes. Directional flow louvers can be set to send cooled air either straight out, up or down, or any combination of these settings.

Admiral air conditioner dealers can determine any homeowner's exact needs with a slide rule which computes the proper size unit for a room, it was pointed out.

All units are 26½ in. wide, 22 in. deep, and 14½ in. high. The ⅓-ton unit (model 33C3) is rated at 4,200 B.t.u. per hour capacity, ½-ton (50C5) at 6,200 B.t.u., ¾-ton (75C5) at 9,100, and 1-ton (100C7) at 11,200. They are for rooms up to 225, 350, 500, and 650 sq. ft., respectively.

The ¾-ton unit is available for 115-volt and 230-volt operation.

Describing the Moisture Conditioner, Nemes said that when the switch is on "Dehumidify" the unit will remove up to 3 gals. of water from the air every 24 hours. When the switch is on "Humidify" it's ready to put into the air up to 2 gals. of water every 24 hours.

"In the humidifying cycle," it was explained, "a pivotal heater is immersed in a 3-gal. water container. This evaporates the water and a fan circulates and distributes the moisture-laden air. When all the water has been evaporated, the heater turns itself off automatically.

"In the summertime dehumidifying cycle, moisture is removed by a simple process of cooling a series of coils to below room temperature. Air drawn into the bottom of the unit by a fan passes over these coils, and thus moisture condenses and drops into the removable container."

The Moisture Conditioner stands less than 2 ft. high and is 16 in. in diameter. It weighs slightly more than 50 lbs., has a hand grip on the top to simplify carrying, and is equipped with a hermetically-sealed unit.

All mechanism is housed within a moisture-resistant aluminum and plastic cabinet. A plastic water container is easily removed.

Admiral also announced production of a dehumidifier, built to the same specifications as the Moisture Conditioner, without the humidifying mechanism.

FREEZER LINE

The 11-cu. ft. upright freezer (model 11CUF) is offered with right and left-hand doors, a glacier blue door liner, and a porcelain enamel interior, making it a style companion to the "Dual-Temp" or either of the company's conventional 11-cu. ft. refrigerators. It has two quick-freeze shelves.

The 27.4-cu. ft. upright (27CUF6) has an all-aluminum liner and four separate compartments divided by refrigerated shelves, with each compartment equipped with two aluminum inner doors. The inner doors "permit access to any compartment with minimum loss of cold," the company said.

Standing 70¾ in. high and measuring 48⅛ in. wide, this model will hold about 965 lbs. of food. Shelves are provided in the door panel.

One of the two 19-cu. ft. uprights, model 19CUF6, also has an all aluminum liner and four separate compartments equipped with two aluminum inner doors. It has a freezing surface of 23.5 sq. ft. A thermometer is provided on the inner panel. The other 19-cu. ft. upright, model 19CUF4, is identical with the 19CUF6 except that the compartments do not have separate inner doors.

The chest models, which have a quick-freeze compartment, are designated 13CUF, 17CUF, and 20CUF. These models and the 11-ft. upright have removable baskets. On the upright, the basket slides forward but is equipped with stops so that it cannot be pulled out inadvertently. On the chest freezers the basket is lifted out.

A feature of the freezers is an alarm which tells when the freezer is not operating. On the 19 and 27-cu. ft. models a warning buzzer sounds. On the others, a red signal light goes out.

Dry wall construction is said to prevent sweating on chest models and the large uprights. Chest models are finished with glacier blue interiors and all freezers have silver color hardware and trim.

All freezers are covered by a 5-year food protection warranty, William B. Doyle, sales manager of the Admiral freezer division, announced. This means the freezer owner is insured against any food spoilage losses due to mechanical failure of the freezer.

RANGE MODELS

Adjustable range broilers enable the housewife to move the rack up or down while the meat is cooking, without handling the hot broiling pan, William P. Mackle, range division sales manager, explained.

All ovens have been completely redesigned. The broiler is recessed and the baking unit is concealed, giving full width from top to bottom and making the oven easier to clean.

Thermometer-type lights on Flex-O-Heat switches give the housewife a quick picture of the degree of heat she is using, Mackle said. The Flex-O-Heat switch turns heat up and down similar to a radio volume dial, and the light indicator moves accordingly.

Top of the range also has been redesigned. The control panel is raised and tilted at an angle for easy viewing. It is not only more convenient for using but is out of reach of small children, Mackle said.

Monotube surface units swing out easily to enable quick cleaning, he added. They have porcelain enamel drip trays under them for added convenience and cleanliness.

ROTARY ROASTER OPTIONAL

Admiral's rotary roaster can be optionally installed on all models except the 20-in. range.

Mackle also called attention to the company's pull-button timer-clock. He said the clock can be set, and in the housewife's absence the entire evening meal can be cooked without any supervision in either oven or on surface units.

Admiral also has equipped both 30-in. and 40-in. models with a dual purpose cooking well unit which can be raised when desired, to make another surface unit.

RANGE FEATURES

Model numbers and features follows:

2CL2—Three surface units with 7-speed rotary switches, appliance outlet, broiler with selective pre-heat switch.

3CH11—Four surface units with 7-speed rotary switches, new control panel at high level, appliance outlet, automatic oven clock, incandescent range light, pilot light, wide storage drawer. With rotary roaster 3CH12.

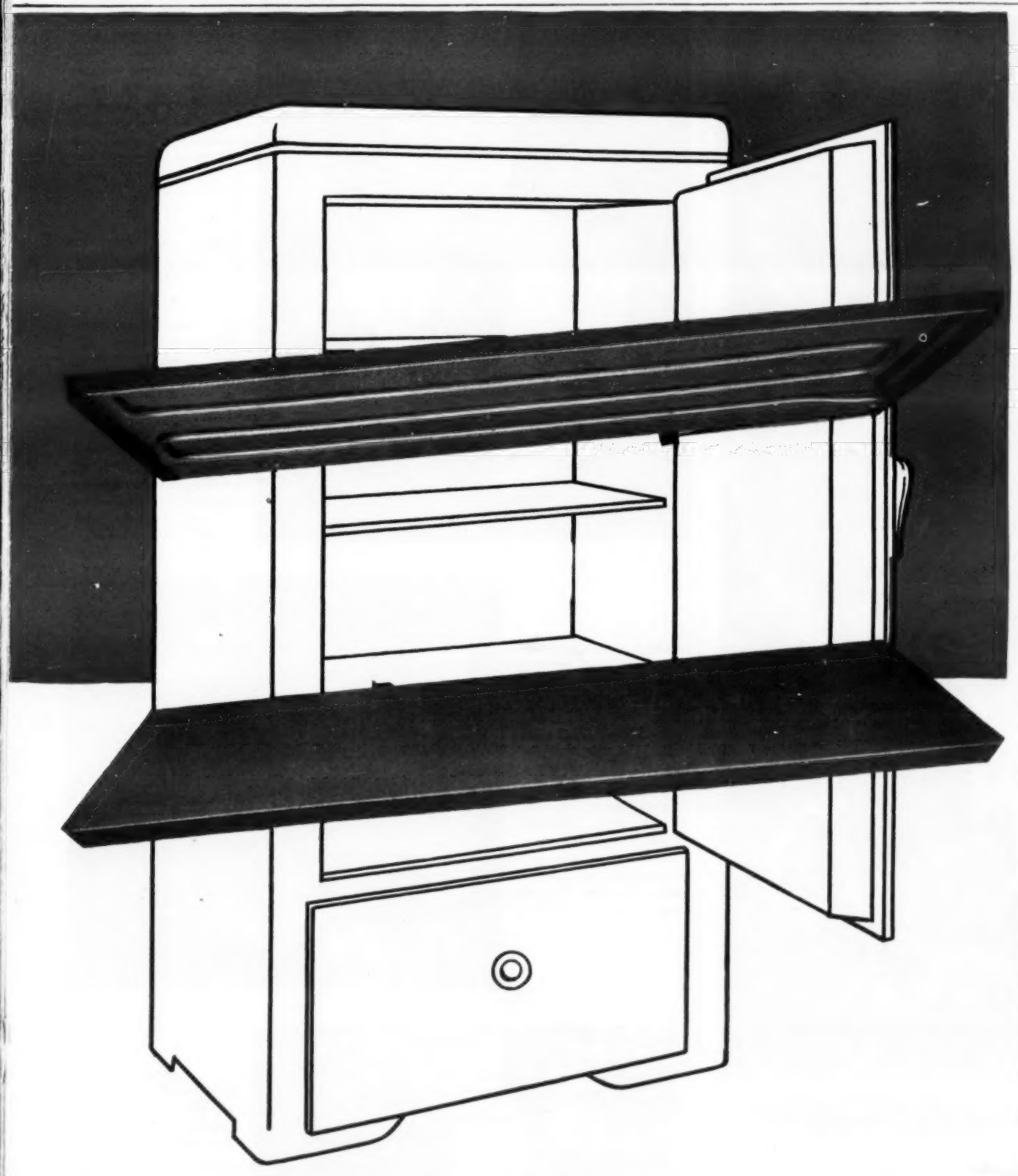
4CL5—Five rotary switches with signal lights, clock and minute timer, dual purpose deep well cooker, large storage drawer, rotary roaster optional.

4CL8—Seven-speed rotary switches with signal lights, automatic oven clock, 3 storage drawers, incandescent range light. With rotary roaster 4CL9.

4CH5—Four Flex-O-Heat surface units with signal lights, adjustable broiler rack, new housing with raised and tilted control panel, fluorescent range light, front mounted oven switch. With rotary roaster 4CH6.

4CH8—Four Flex-O-Heat surface units with thermometer type indicators, adjustable broiler rack, 3 storage drawers, selector control, controlled fluorescent range light, dual speed minute timer, simplified pull-button automatic timing clock, 2 appliance outlets. With rotary roaster 4CH9.

4CH14—Four Flex-O-Heat surface units with thermometer-type indicators, large oven 16¾ in. high, second oven 12 in. high, adjustable broiler rack, 2 storage drawers, selector control, controlled fluorescent range light, dual speed electric minute timer, simplified pull-button clock, 2 appliance outlets. With rotary roaster 4CH15.



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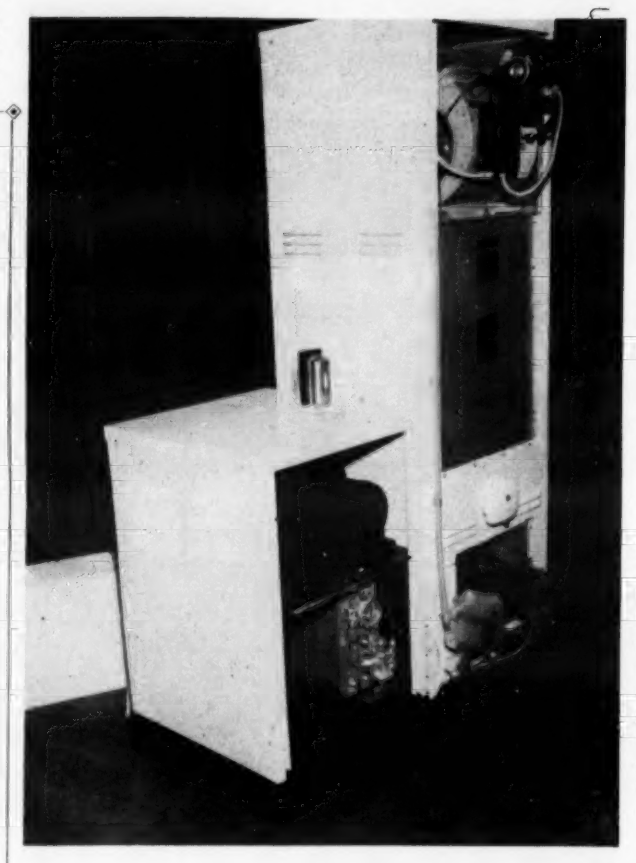
AIR CONDITIONING
(Year-Round Residential)

HEATING SYSTEM IS IN THE TOP of the just-introduced 1953 Frigidaire year-round residential air conditioning system, as Jeanie Paradine is indicating here. This model has a 3-ton cooling system, and the heating system is rated at 90,000 B.t.u. output. Entire unit measures 40½ in. wide. **KEY NO. C-210.**

YEAR-ROUND SYSTEM WHICH WILL BE AVAILABLE IN 2, 3, and 5-ton cooling capacities was shown by Bryant Heater. John T. Westlake of M & W Construction Co., Columbus, Ohio, builder, points out features to his wife. **KEY NO. C-211.**

NEW 3-TON YEAR-ROUND CONDITIONER and 3-ton "water saver" were displayed by Airtemp. Cooling system (left) has compact, 4-cylinder radial compressor. Water saver (right) is marked by "closed circuit" operation, needing no extra water. **KEY NO. C-212.**

What Was New
At the Home Builders' Show



ABOVE — SIMPLE LEVER provides manual change-over from cooling to heating or vice versa in Servel, Inc.'s new gas-operated year-round 2-ton system. Mickey Milan shows how lever operates on demonstration model which has cover panel removed to show operating components. Lever control works through simple mercury switch, which makes necessary change-over. The direct-fired system provides heating capacity rated at 72,000 B.t.u. output. **KEY NO. C-213.**

LEFT—SUMMER AIR CONDITIONING UNIT ON THE SAME BASE AS HEATING SECTION but placed alongside it was shown by Conco Engineering Works. Damper operated by wrench switches airflow under the cooling coil for summer operation. Condensing unit is a 1½-hp. unit. **KEY NO. C-214.**

DESIGNED TO CUT WATER CONSUMPTION AND COSTS when used with a year-round residential air conditioning system is this new "Aqua-Miser" evaporative condenser, which J. A. Walsh, Houston distributor, is looking over. It was hooked up to Coleman's "Blend-Air" year-round conditioner, as shown in picture, but can be installed outside of the house. **KEY NO. C-215.**

RESIDENTIAL AIR CONDITIONER AND HOME 'PRECIPITRON' AIR CLEANING UNIT in one assembly was shown by the Sturtevant Div., Westinghouse Electric Corp. Conditioner shown (with glass front for demonstration purposes) has 3 tons cooling capacity. Precipitron electrostatic air cleaner handles 1,200 to 1,500 c.f.m. of air. **KEY NO. C-216.**

Solenoid Valves"

HERE IS THE RECORD:

27 Nationally-known manufacturers are using JE Solenoid Valves on their products.

82 Refrigeration and Industrial wholesalers are handling JE Solenoid Valves.

7 Nationally-known hotels use JE Solenoid Valves for temperature control of individual guest rooms (heating and cooling).

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Seek End to Bid-Shopping--

(Concluded from Page 1)

eral contractors and architects opposed it. City department heads were divided on whether or not the resolution would save the city any money. Several council members appeared to favor the legislation while none openly opposed it.

No decision was reached at the hearing. Instead the city comptroller was authorized to call another meeting of interested parties within 30 days to iron out points of difference and submit a recommendation in the form of a resolution.

BID SHOPPING COSTS CITY MONEY

John F. Williams, representing the heating, piping, and air conditioning contractors, argued that the practice of some general contractors of taking a contract on the basis of bids submitted by sub-contractors and then shopping around to get a lower figure from other sub-contractors actually cost the city money and resulted in lower quality workmanship. He contended that the proposed legislation was intended to give sub-contractors the same closing date protection that general contractors have.

John Armstrong, representing the local chapter of the Associated General Contractors, opposed the resolution because, he said, it was impossible for a general contractor to submit the names of his sub-contractors at the same time as the bid. Most sub-contractors withhold their bids until the last minute and the general contractor does not have time to analyze them, he asserted.

He suggested that the general contractor be given a reasonable time after the bid was closed to submit the names. He suggested seven to 10 days, commenting, "It is pretty hard to chisel 30 to 35 sub-contractors in seven days."

PROBLEM NATIONAL IN SCOPE

Armstrong also contended that this problem of protecting sub-contractors was national in scope and a matter for the trade to settle itself. He said the evils will not be corrected by legislation, but rather should be corrected by the mechanical and electrical trades sitting down with the general contractors and ironing out their problems.

He charged that if the city gives in to this pressure group and passes the legislation, it will discourage any hope of settling differences within the trade and would open the door for a multitude of other sub-contractors, particularly in the architectural trades to seek similar protection.

He urged that the city let the problem be settled on a national, rather than a local, level.

When all the arguments were heard, the points of difference seemed to be whether sub-contractor names should be submitted with the bid or within a seven to 10-day period, and whether the base amount of the general contract should be $25,000 or $100,000 before the resolution would apply.

It was pointed out at the hearing that bills have been submitted to the U. S. House and Senate to accomplish the same purpose on Federal contracts.

The proposed resolution and Williams' arguments in favor of the resolution follow:

RESOLUTION

WHEREAS the Common Council of the City of Detroit desires to prescribe a policy and procedure in connection with certain construction contracts undertaken by or in the name of the City of Detroit;

NOW, THEREFORE, be it RESOLVED, that every officer, board, department, commission or commissions charged with the duty of preparing specifications or awarding or entering into contracts for the erection, construction or alteration of buildings for the City of Detroit where the entire cost of such work shall exceed TWENTY-FIVE THOUSAND DOLLARS ($25,000.00), shall require separate bids and shall award separate contracts for the mechanical specialty work, including all plumbing, heating, piping, air conditioning, refrigeration, ventilating and electrical work, or prepare specifications and award one general contract including all work necessary for a complete job and the specifications shall require the general contractor to submit a schedule of the names of the subcontractors for the mechanical specialty work together with the amounts of their respective bids, upon presenting the general contract bid.

WILLIAMS' ARGUMENTS

The purpose of the proposed resolution is to improve the existing practice in connection with the award of contracts for the construction of building projects by the City of Detroit.

Currently, bids for such projects may be submitted in a lump sum basis without designating who the subcontractors for the mechanical specialty work (plumbing, piping, air conditioning, refrigerating, ventilating, and electrical work) are or the amounts which will be paid to them.

After the contract for the project is awarded, the contractor may, by using the information and figures received from the subcontractors who submitted bids to him, shop around and solicit bids from other subcontractors in lower amounts or attempt to coerce the subcontractor who submitted the lowest bid to reduce his bid.

This practice does not benefit the City in any way and may indirectly result in higher costs to the City and in lower quality workmanship.

The proposed resolution would prevent this practice, which has been increasing, by requiring the general contractor to list in his bid the names of the subcontractors who will perform the mechanical specialty work and the cost to the general contractor of such work.

After the contract is awarded, no change may be made from the subcontractors named in the bid except under certain conditions. In the event the listed subcontractor fails or refuses to perform his contract, the contractor may substitute a new subcontractor with no restriction whatever except that the name of the new subcontractor and the amount of his contract must be submitted in writing to the officer, board, department, commission or commissions.

If the general contractor desires of his own accord to substitute a new subcontractor for the purpose of reducing the cost, the new subcontractor must be approved by the officer, board, department, commission or commissions in writing and any saving must be passed on to the City.

1. The present practice prevents the City from getting the benefit of a full range of bids from subcontractors.

The mechanical specialty work, which is the subject of the resolution, has become highly complex and requires highly trained and skilled personnel, expensive capital equipment, and in most cases an engineering staff.

In most building projects the cost of such work amounts to between 20% and 40% of the total cost of the project. The cost of preparing bids for project work is high, in many cases amounting to more than $1,000.00.

If a subcontractor has no assurance that his bid, if low, will be accepted or if he knows that the general contractor may take his bid to another subcontractor and negotiate for a lower figure, he will be reluctant to submit a bid.

Those subcontractors who do submit bids may have a tendency to put in their bids at the last minute at an artificially increased figure. After the contractor has received his contract he has a virtual monopoly on the project and in further negotiations with subcontractors they are at a definite disadvantage.

The general contractor and the subcontractor who do not wish to engage in the practice of bid shopping are increasingly reluctant to bid on public projects.

2. The present practice may encourage the performance of inferior mechanical specialty work.

Because the ethical and reputable subcontractors are reluctant to submit bids under the current practice, the subcontract may be let to inexperienced and unreliable firms and the City loses the benefit of first class work.

It is also true that if the contractor can save money for himself by bid-shopping, he may be encouraged to cut corners on the specifications and award subcontracts to firms who engage in such practices.

3. The proposed resolution cannot result in any increased cost to the City and may save the City money.

Any money saved by the general contractor who shops for bids after the contract is awarded now goes into his pocket. Under the proposed resolution such savings would go to the City.

4. The proposed resolution will permit the City's Officer, Board, Department, or Commission to remain in control of subcontracting for mechanical specialty work.

Because the mechanical specialty work represents such a large part of the total cost of a project, it is desirable that the Officer, Board, Department, or Commission retain some control of those who perform such work and the amount they are paid.

The cost of such work often exceeds the cost of the work done by the general contractor. This need is recognized in many cases by making direct contracts for such work as the Board of Education does. Other departments of the City have also followed this practice directly or indirectly.

5. The current practice of bid-shopping has been condemned by the government and industry associations.

The code of ethics of the General Contractors Association and the Handbook of the American Institute of Architects as well as the codes of conduct of the subcontracting groups including the Trade Practice Rules for the electrical contracting industry promulgated by the Federal Trade Commission in 1931 contain strong admonitions against this practice.

6. A Bill calling for a similar change in the practice with respect to Federal construction work is pending.

Senate Bill No. S. 2907 was introduced on March 24, 1952. This bill and the report of the Judiciary Committee to which it was referred recognize the evils of the current practice and attempt to cure them in the same manner.

Testimony was introduced at the hearings before that Committee relative to legislative efforts in a number of states to eliminate bid-shopping by mandatory separation of construction contracts into separate electrical, plumbing, and heating contracts. These states include New York, New Jersey, Pennsylvania, Ohio, Arkansas, and North Carolina.

7. The Proposed change in procedure need not necessarily be applied to other subcontractors and will not require the Officer, Board, Department, or Commission to "police" the prices of subcontracts.

It is argued that there is no reason for treating the mechanical trades any differently from other subcontractors. However, it is submitted that a differentiation is justified because (1) general contractors do not necessarily find it necessary to secure sub-bids from subcontractors for work other than mechanical specialty work, (2) the cost of preparing sub-bids on mechanical specialty work is much greater than for non-mechanical work, and (3) the cost of the work of the mechanical trades is so much larger in relation to total cost than that of the other individual trades.

The procedure will not require the "policing" of subcontracts. The extra administrative work will consist chiefly of approving proposed changes of subcontractors. The extra administrative work involved would be amply justified by the long range benefits to the City and the elimination to some extent of the current improper practices.

8. The new procedure is not "unfair" to contractors.

It is argued that fairness requires that a general contractor be paid additional money if a listed subcontractor fails to perform and he is required to pay more for mechanical work. This does not follow.

The general contractor always has that risk under a lump sum contract. A requirement that he submit the names and amounts of certain subcontracts and to pass on any savings he makes with respect to those contracts is designed to prevent a practice instigated by the contractors themselves for their sole benefit and is not intended to change the basic principles of the lump sum contract.

If the procedure is made clear to them before bids are submitted it cannot be unfair.

9. The procedure proposed will not involve the City with subcontractors.

It is argued that the City has no contract with subcontractors and could not compel them to abide by any arrangement as to price made with the general contractor. There is no reason under the proposed procedure why the City should be asked to compel performance by a subtractor.

If a subcontractor fails to perform, the general contractor can take all legal steps available to compel performance or he can substitute a subcontractor by merely notifying the Commission of the new subcontractor and his price.

Correction:

Status of 'Freon-113' In New Standards By Underwriters' Laboratories Clarified

It has been called to our attention that an incorrect interpretation was made of the status of the refrigerant "Freon-113" in the analysis of the new Underwriters' Laboratories standards for the refrigeration and air conditioning industry, which appeared in issues of AIR CONDITIONING & REFRIGERATION NEWS late last year.

A letter from R. L. Williams, manager, refrigerant sales to manufacturers for Kinetic Chemicals, states:

"In your article 'Underwriters' Laboratories Revises Air Conditioning, Refrigeration Standards' in the section under refrigerants it is reported in the third paragraph that the new Underwriters' Laboratories Standards rule out such refrigerants as . . . 'Freon-113.'

"It is stated that this applies to air conditioning systems employing the direct method of refrigeration, and states that such systems shall use a practically nonflammable refrigerant classified in Group IV or above, based on the Underwriters' report MH-2375 entitled 'The Comparative Life, Fire, and Explosion Hazards of Common Refrigerants.'

"While the particular refrigerant 'Freon-113' has not been included in the Underwriters' Laboratories report MH-2375, published in 1933, it was investigated by the Underwriters' Laboratories and reported in their MH-3072 on April 7, 1941, and classified as much less toxic than Group IV but somewhat more toxic than Group V. Therefore, 'Freon-113' comes within the standards permitting direct expansion air conditioning systems since it falls within a classification of Group IV or above."

The interpretation which was published in the NEWS was written by a consulting engineer, who made further investigation of the subject and wrote the following, which confirms Williams' contention:

"In the interpretation which I made I assumed that any refrigerant not classified as Group 5 must of necessity be of the general Group 4. Otherwise, there is no number to which to assign it, for the description 'between 4 and 5' is unclassifiable and anomalous.

"However, I wrote to Underwriters' Laboratories to get their interpretation and they stated that they consider a refrigerant with a classification 'between 4 and 5' as having a lower degree of toxicity than Group 4.

"Under this interpretation, 'Freon-113' is therefore acceptable for direct expansion air conditioning systems, as covered in paragraph 64 of the Standard."

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Turn to "What's New" Page for useful information on new products.

No. 4 of a Series of 12 Advertisements

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Factory Representative Tennessee-Arkansas Territory
serving you through these reputable wholesalers

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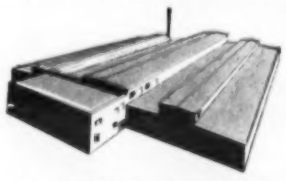

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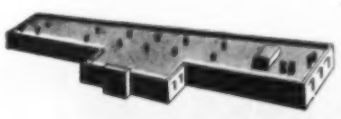

Plant 3—4th and Park Ave.
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McQuay is proud of its complete line of *proved and preferred* refrigeration equipment and of the men who represent the company to you. There is a McQuay wholesaler in your territory, qualified by long experience and backed by the entire McQuay sales and engineering organization, who can give you the right answer to your specific problem — whether it's selling help, technical advice or quick action you want. Consult your McQuay wholesaler or write McQuay, Inc., 1607 Broadway N.E., Minneapolis 13, Minn.

McQuay INC.

REFRIGERATION
HEATING
AIR CONDITIONING

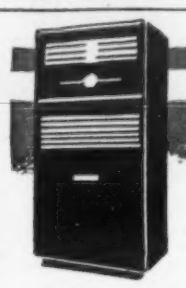
MANUFACTURERS OF HEAT TRANSFER EQUIPMENT SINCE 1923

What Was New

At the Home Builders' Show

HOW NEW GENERAL ELECTRIC RESIDENTIAL AIR CONDITIONING combinations of cooling and heating units can be fitted into compact wall space is shown by Bob Avery of R. Cooper Jr., Inc., Chicago distributorship, who slides panel which demonstrated how system could be concealed in a living area. Some 250 combinations of heating and cooling systems, to serve varying requirements are possible with 1953 G-E line. KEY NO. 2112.

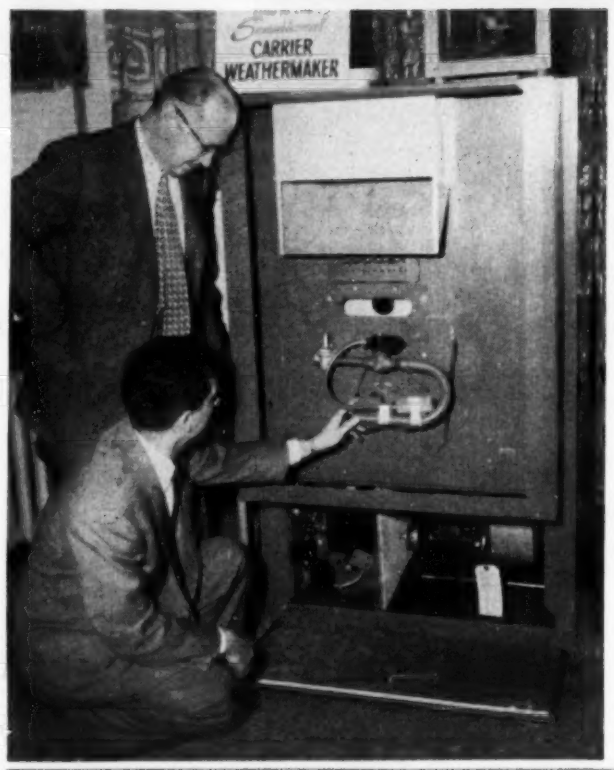
OCCUPYING BUT 5 SQ. FT OF FLOOR SPACE is the new Typhoon year-round residential air conditioner with 2-ton cooling capacity, shown for the first time at the Builders' Exposition. This model operates without the use of dampers. Gas or oil-fired heating section provides 80,000 B.t.u. output. Blower handles 800 c.f.m. of air. Either an air-cooled or water-cooled all-copper condenser may be used. The cooling section may be used separately with existing furnace installations. Over-all dimensions are 28 x 29 x 80 in. KEY NO. 2113.



AIR CONDITIONING

(Year-Round Residential)

TWIN HEATING AND COOLING UNITS shown by American Radiator & Standard Sanitary Corp., feature low, compact construction, demonstrated here as petite Beatrice West, New York City color stylist, poses with the "twins." The "Mayfair" cooling system on the right is available in 2-ton and 3-ton models. To round out the system, American-Standard this year has added the "Magne-filter," an electrostatic air filter (on top of the cooling section). KEY NO. 2114.



COMPACTNESS AND SIMPLICITY mark the new Carrier Corp. "Weathermaker" residential year-round conditioner, as William Rudoy (kneeling) of Carrier's Cleveland district explains to Charles F. Keller, a leading builder in Elkhart, Ind. Front cover has been removed to show operating components. This unit occupies less than 10 sq. ft. of floor space and goes through a standard 29-in. doorway. KEY NO. 2115.

KOLD-HOLD truck refrigeration
WILL PAY FOR ITSELF!

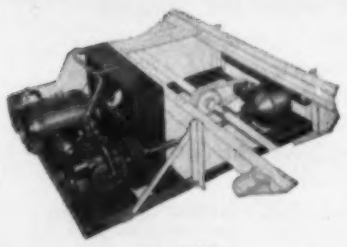
Every day is judgment day in your business. Your customer's judgment determines your success — or failure.

In striving for favorable judgments from your customers, natural color, full weight, garden flavor — these three factors make up the taste test that determine whether your products are preferred. Kold-Hold dependable truck refrigeration keeps you ahead of your competition, in delivering full flavor. Its low cost is cheap customer insurance.

For example, one user reports, "The truck has been our best advertisement we ever had. Our business has increased about 20% in 4 months."

In addition to the advantages in customer satisfaction you also eliminate spoilage losses, enable your trucks to make longer hauls with a full day's load and cut down handling time. With these benefits you can easily see why Kold-Hold truck refrigeration pays for itself.

KOLD-HOLD *can answer any refrigeration problem!*



KOLD-TRUX

Which do you prefer . . . Mobile or Hold-Over truck refrigeration? Kold-Hold can give you either or a combination of both.

When your weather worries start, pick out the routes with the biggest refrigeration problems and call on Kold-Hold to give you a satisfactory solution. They will give you the right combination for your needs from such highsides as the Kold-Trux Mobile Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold Hold-Over Plates, Thin Plates, Serpentine Quick-Action Plates, or Blowers.

Why not give us the details of your problems and let our engineers find the most efficient solution for you. Write today for details.

HOLD-OVER PLATES

Tell us your truck refrigeration problems and send now for complete data and literature.

KOLD-HOLD

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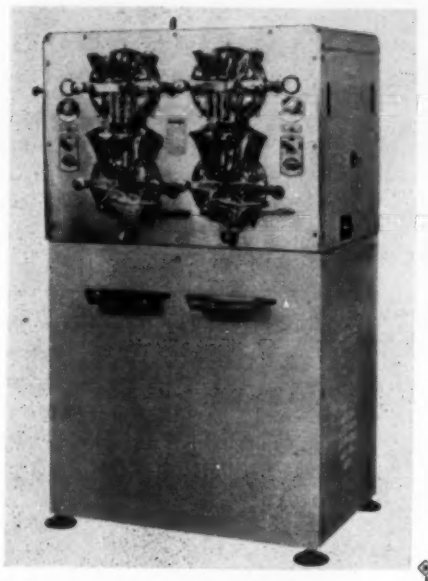


Double Duty Model Is 2 Freezers In 1 Stand

——KEY NO. C-217——

CHICAGO — A "king-size" freezer for double duty has been introduced into the 1953 line of frozen dairy dessert freezers of the Freez-King Corp. here.

Called model 950, the freezer is actually two freezers in one stand. Each of the two units is designed to operate independently of the other.

The freezer is 36 in. wide, 24 in. deep, and 65 in. high. The unit contains two separate compressors, which insures a better product, and which allows the operator to serve two flavors at the same time. A capacity of 7 gals. of refrigerated mix may be stored in the freezer.

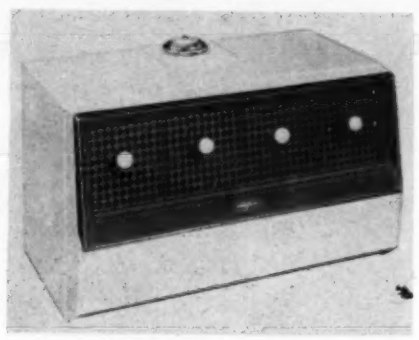
Like all Freez-King models, 950 has several exclusive features. The unit contains the patented automatic feed, which, as one serving is made, injects a similar quantity into the freezer; the "seeing eye" dial, which indicates when the product is at the proper serving consistency, and when the freezer is underloaded or overloaded; fully patented automatic continuous freezer head, the parts of which are easily removed for cleaning.

The beater is made entirely of heavy dairy metal. There are no gears to wear or keep clean and large unloader bars assure rapid emptying.

Model 950 also has the patented back feed that feeds the mix in the front, and by means of a conveyor screw, transfers it to the rear of the freezer compartment. The frozen product is always in the front of the freezer, ready to serve. Because of this method, it is possible to clean the freezer from the front. Freez-King machines are the only continuous freezers which require less than five minutes to clean.

All of the mix feeding parts are in front within easy reach and only a few minutes are necessary to disassemble, clean, and re-assemble. The draw-off gate is available in both the spigot or knife-type action and permits a wide stream for rapid servings.

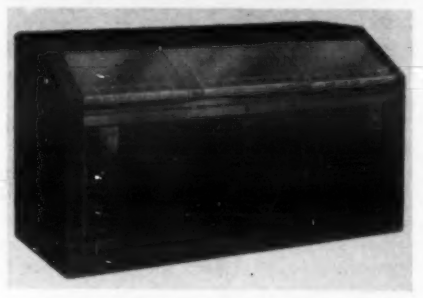
Has Single Dial Control



——KEY NO. C-218——

The "Wonderair," Servel's new window-type room air conditioner, features single-dial operation and styling to harmonize with interior decoration. All-plastic cabinet is designed for quiet operation.

List Features of 1953 'Dry-Kool' Bottle Cooler



——KEY NO. C-219——

HUDSON, Wis. — Major features retained in United Refrigerator Co.'s "Dry-Kool" bottle cooler for 1953 were recently listed by Jack Gordon, vice president.

The cooler, in brown "Dulux" and stainless steel, insures even cooling by means of blowers mounted every two feet blowing directly across the evaporator coils, according to Gordon. This is said to increase the cooling capacity and maintain ideal cold air circulation in the new bottle cooler.

Modern styling includes the "Lift-A-Way" disappearing door, built-in bottle decappers flush with the cabinet, and an over-all streamlined appearance accentuated by the rounded corners and slanted top.

The dry bottle cooler is offered in various sizes and types to fit all cooling requirements, Gordon said.

Torrington Adds New Fan Series for Air Conditioning

——KEY NO. C-2110——

TORRINGTON, Conn. — The Torrington Mfg. Co. has announced initial production of a new "LU" series of aluminum one-piece unit-bearing motor fans in three sizes, 7¾, 8¾, and 10-in. diameters.

D. B. Robinson, Torrington vice president, said the new addition to the company's "AIRistocrat" line—designed especially for refrigeration and air conditioning appliances—is hand set to assure accurate forming and blade alignment. The new series is pierced for all unit-bearing motors.

'Sun-Aire' Clothes Dryer

——KEY NO. C-2111——

NEW SUN-AIRE clothes dryer introduced by the Stiglitz Corp. of Louisville is heated electrically. Model 53-E is being demonstrated here by Irene Kalman.

You'll feel better

because you'll sell better with these **Smart new**

RCA Room Air Conditioners

Look at the line...

The big demand for room air conditioning is growing . . . bigger. But consumers have learned a lot from the stifling summer of 1952. Sales are going to the dealer with the line that features an outstanding name, sound engineering and real value . . . RCA Room Air Conditioners.

Look at these features

Concealed Climate Tuner

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Thermostat built-in in some models, optional in others

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Underwriters' Laboratories Approved

RCA Factory Service Available

These seven new, advanced design models are seven sales opportunities . . . seven big profit possibilities for alert dealers. Start early! Order now!

RCA Room Air Conditioners

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Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

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"Water Coolers and Filters for 40 Years"

Tenney Names Schmidt to Post of Senior Engineer

NEWARK, N. J.—Tenney Engineering, Inc. announces the appointment of Fred L. A. Schmidt as a senior engineer in the environmental test chamber division. Schmidt's primary duties will be concerned with application and sales engineering.

F. L. A. Schmidt

His first assignment is that of project engineer on the Frankford Arsenal job, one of the largest single environmental test chamber contracts ever awarded.

Schmidt has degrees in both mechanical and electrical engineering from Case in Cleveland. His background includes 19 years with General Electric Co., 8 years as an instructor, 2 years with the Vitro Corp. of America, and 4 years as a refrigeration consultant in eastern United States.

He has written numerous articles for publications in the chemical, heating, refrigeration, and processing fields.

Seattle Firm Gets Contract

SEATTLE—A $2,612,513 Whidby Island construction job which will include subsistence and cold-storage buildings, additional aviation facilities, and barracks has been awarded to Sound Construction & Engineering Co. here.

Radiation Sterilization May Make Possible Longer Storage of Perishables

NEW YORK CITY—Will the day ever arrive when a housewife can walk into a supermarket and buy a pound of unfrozen hamburger that was packaged and processed six months earlier?

Will it ever be possible for a housewife to take from a grocery store shelf a bunch of preserved uncooked asparagus, neatly packaged three months earlier in a transparent plastic container?

Right now these questions are purely academic.

But they gave rise to some interesting conjectures centering around an exhibit on food preservation by atomic irradiation, which was on display at the annual meeting of the American Society of Refrigerating Engineers in New York City late in 1952.

This display illustrated graphically the dramatic research in this field being conducted by scientists at the University of Michigan as a phase of the Michigan Memorial-Phoenix Project, a unique research program on peacetime applications of atomic energy. Nash-Kelvinator Corp. and others have contributed more than $100,000 to the university to help support the food preservation studies.

"The gradual trend in the food industry," explains Dr. Lloyd E. Brownell, associate professor of chemical and metallurgical engineering at the University of Michigan, "is toward the processing of more and more food to cut the losses of handling perishable foods."

Radiation sterilization is a possible new method of processing foods which might assist this trend as a supplement to existing processes, he points out.

The development of a process which would utilize fission products—the by-products of atomic bomb manufacture—to sterilize foods by gamma radiation, involves many problems.

"First," Dr. Brownell says, "it is necessary to demonstrate that food can be sterilized and preserved by a radiation treatment."

Preliminary research at the University of Michigan, using a 1,000-curie cobalt source of radiation, indicates that food definitely can be sterilized by gamma radiation.

Various systems of micro-organisms, such as molds, yeasts, bacteria, and the like, were completely destroyed by radiation.

"How long food may be preserved after sterilization depends to a great extent upon other factors, such as the method of packaging, temperature of storage, absence or presence of oxygen and undesirable enzymes, the tendency of food to undergo chemical reactions, and the like," Dr. Brownell reports.

"In addition to sterilization and preservation, other important items must be considered, such as food value, loss of vitamins, the possibility of producing toxic compounds, and undesirable flavor and color changes," he says.

Such foods as green vegetables, spinach, asparagus, green peas, broccoli, carrots, and others can be sterilized by gamma radiation without undesirable flavor changes. Michigan scientists also found that fresh meat could be guarded against flavor changes by using small amounts of protective chemicals.

"Animal feeding experiments will be required to establish food values and to assure that no toxic compounds are produced," he says.

Preliminary animal tests in Michigan laboratories indicate that although irradiation of food possibly results in some loss of vitamins, the irradiated food will support normal growth without any observed undesirable effects.

However, Dr. Brownell emphasizes, at least two years of animal feeding experiments will be necessary to bear out this conclusion.

To help in further studies, the University of Michigan has arranged for delivery of a 10-kilocurie source of cobalt-60, the most powerful experimental gamma ray source in the United States, to the Ann Arbor campus.

Activated at the Canadian nuclear reactor at Chalk River, Ont., the source will be installed in a unique "radiation cave" into which no human will dare venture while the source is at work.

The cobalt-60 will be placed so that it may be lowered into a protective 16-ft. well of water when not in use. Researchers will be able to enter the cave to set up experiments only when the potent source is at the bottom of the well. The cave itself is 8 ft. wide and 11 ft. long, with concrete walls 4 ft. thick.

A commercial canning machine provided by the American Canning Co. will be used.

There is also the possibility that food preservation by irradiation will open up new avenues of food packaging. Tin cans and bottles may be supplemented in the future by a wide variety of plastic containers. Such containers would be more flexible, and the housewife could actually see the produce she was buying—produce that was packaged months before being placed on the market shelf.

"Canned food of better quality may be possible if radiation sterilization is used rather than thermal sterilization," Dr. Brownell points out. Food preservation by irradiation would not supplant present refrigeration methods.

Indeed, he notes, radiation pasteurization of some perishable foods may make it possible to keep refrigerated foods longer.

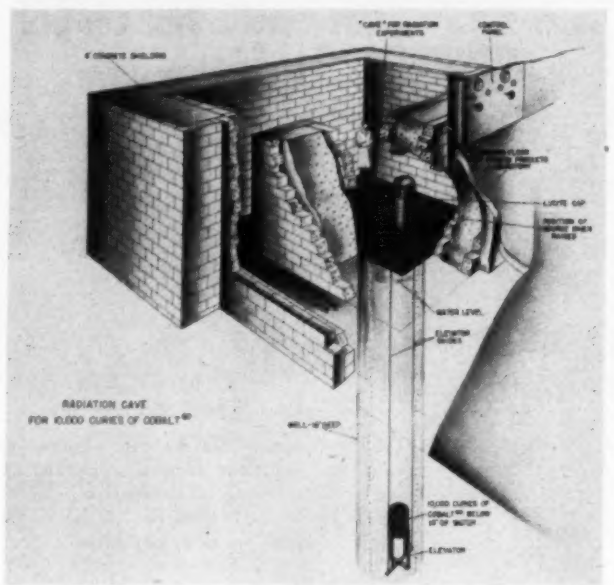
Three steps must be taken, he says, before a housewife can walk into the supermarket and drop a six-months-old package of raw hamburger into her basket:

1. Food sterilization by gamma radiation must be proven acceptable to the Pure Food and Drug Administration's requirements and to consumers' tastes.

2. Industry must show an interest by supporting research work to develop the process in terms of commercial feasibility.

3. The Atomic Energy Commission must make available sufficient quantities of fission product gamma ray sources at reasonable cost.

Commercial Refrigeration



CUTAWAY DRAWING illustrates the "radiation cave" at the University of Michigan in which will be installed 10,000 curies of cobalt-60, the most powerful experimental gamma ray source in the United States. One of its uses will be in connection with food preservation by atomic irradiation.

ONE OF THE MOST COMPLETE LINES IN THE INDUSTRY

NEW improved Curtis CONDENSING UNITS

at NEW, LOW PRICES

All with these Famous Curtis Features:

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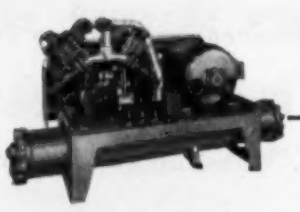

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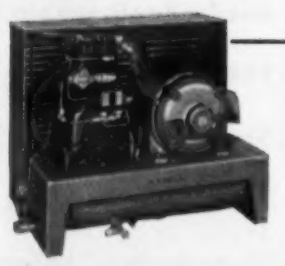

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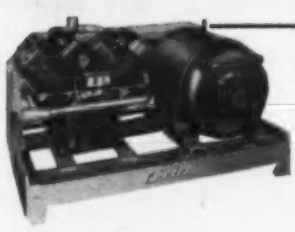

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Plenty of reserve capacity for extreme hot weather. Operates primarily as air cooled unit with shell and coil condenser as auxiliary in case of overload. From ⅓ H.P. to 3 H.P.

COMPRESSOR UNITS
For use with evaporative condensers, low temperature cooling, processing and air conditioning installations, from 3 H.P. to 50 H.P.

Plus a complete line of packaged units in six sizes 2-3-5-7½-10-15-H.P.

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I am interested in direct factory franchise. Send complete details.
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"JOB TAILORED" means money saved

• Your cold plate dollar goes further when you specify DEAN because you eliminate waste! You get a plate in the *exact* size you need . . . not one that is almost right, but a plate that accurately meets your specifications. You name the size—you name the shape . . . we make it!

You can have plates in zinc metalized steel, stainless steel and in other metals. You can get cylinders, U's, angles, tanks, etc., and also plates for baudelot-type coolers.

Using DEAN "job tailored" cold plates means dollars in your pocket on every job. Try them!

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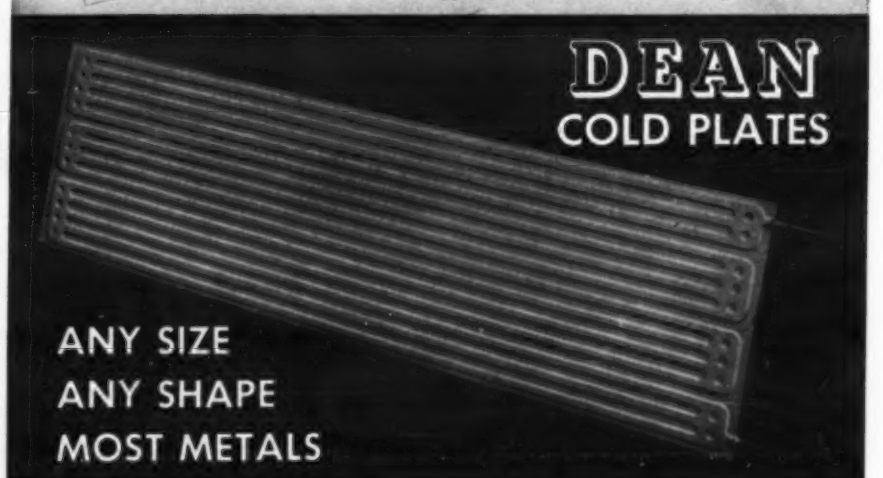
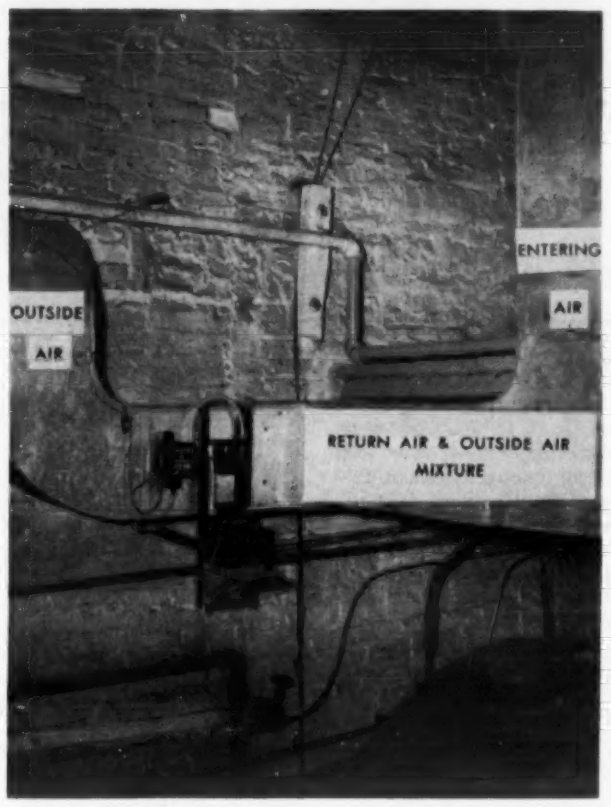
Get the details on DEAN Cold Plates for ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, frosted food refrigerators, window displays, food counters, refrigerated transportation and subzero applications for industrial chilling.

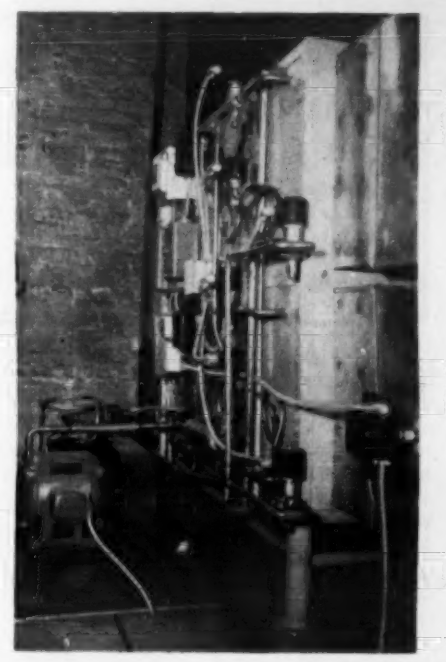


DEAN PRODUCTS, INCORPORATED
1042 DEAN ST., BROOKLYN 16, N. Y.
STerling 9-5400

DESIGNED by Contractor Wolter and built with the assistance of a sheet metal shop is this cabinet which neatly houses the coils and blowers for the reverse-cycle system installed in Saginaw, Mich.



THERE is considerable "temperate" weather in the Saginaw area, and outside air damper controls permit the use of outside air—when it is at proper temperatures—to supply proper conditions for a windowless office.



CONVENTIONAL controls plus special hook-up permitting change-over from heating to cooling or vice versa is installed at rear of blower and coil cabinet, and with condensing unit mounted right by, all parts are readily accessible.

Heat Pump Air Conditioning System

Manager's Office In Separate Building In Michigan Hotel's Court Yard Proves To Be Well Adapted to Reverse Cycle Job

SAGINAW, Mich.—A heat pump air conditioning system, assembled on the job by M. H. Wolter, air conditioning and refrigeration contractor here, is providing heating and cooling for the office of the manager of the Hotel Bancroft in Saginaw.

The manager's office was an "addition" to the existing hotel facilities, in that it was built in an open air court within the hotel building walls. The covered area is slightly over 3,000-cu. ft. in area. There are no windows in the space.

When Wolter was called in to provide year-round air conditioning for the manager's office, about the only stipulation was that a remote unit would be desirable.

When he found that the heating and cooling loads could come out at a fair balance, Wolter began to think about the possibilities of using a heat pump system. He began to survey the premises for a suitable location for an air-handling unit, and found that a room adjoining the auxiliary engine room had a fairly uniform temperature of around 70°, which seemed just about right for a heat pump.

Wolter selected a General Electric 1½-hp. model CW-41 "Freon-12" condensing unit for the job. Four coils of standard design, made by Refrigeration Appliances, Inc. were selected for the heat transfer job. Two Brundage 10-in. fans, operating at fairly low speed, were selected for the air-handling work.

SHEET METAL CABINET HOUSES COMPONENTS

Knowing that the hotel would like a neat-looking installation and one that would occupy a minimum of space, Wolter worked with a sheet metal man and built a cabinet to house the coil, fan, and filter sections. It was finished in a nice-looking grey finish, and was complete even to a stainless steel nameplate! The whole assembly was placed on a mezzanine platform 15 ft. above the floor.

Valves and accessory items installed included Detroit Controls thermostatic expansion valves on the coils, solenoid valves for switching, liquid controls valves, a Temprite oil separator, and a heat exchanger. Vibration eliminators were placed on the copper lines throughout.

The room thermostat which controls the room air temperature of both the heating and cooling cycle is a Minneapolis-Honeywell type TA-42-B SPDT.

An M90 modulating motor with spring return connected to a return air modulating thermostat, and outdoor air high limit control with minimum position switch, control the return air and outside air dampers. The spring closes the outside air damper when the unit is turned off, or when there is a power failure.

During moderate weather most cooling or ventilating is done with the outside air with control by the mixing dampers. However, if the conditions in the office are at the thermostat cut-in point or higher, the first cycle may call for condensing unit operation. The room temperature is set at 75° F. during the entire year.

FLIP OF SWITCH PUTS SYSTEM IN OPERATION

The system is put into operation from the conditioned space by flipping the "on" switch which energizes a magnetic starter starting the fans and distributing power to the auxiliaries. Heating or cooling is selected through a double-pole double-throw switch each energizing a separate circuit.

The thermostat operates the liquid line solenoid admitting liquid to the direct expansion coil, and a low pressure control starts the condensing unit. The coil is pumped out each cycle when the thermostat is satisfied.

To eliminate the possibility of liquid condensing in either coil whenever that particular coil is not in use, a condition which is possible with slight solenoid valve leakage at the seat, a bleeder circuit is cut in and opened to the coil not in use while the unit is operating on the opposite cycle.

This is done automatically with solenoid and Superior check valve. This keeps the coil not in use free of liquid.

Liquid sub-cooling was done by the suction line heat exchanger only on the original installation. However, Wolter believes that a 10% increase in efficiency may be possible through sub-cooling done in the air flow, and plans to incorporate this into the system.

WATER-COOLED CONDENSER CUTS IN DURING EXTREME WARM WEATHER

In extremely warm weather a water-cooled condenser can be cut in. This has been accomplished by manual operation, but Wolter is thinking of making it automatic with a reverse acting high pressure control closing on a rise in pressure, and a water solenoid valve.

The supply air is handled through an insulated duct entering the room through an Anemostat type "B" ceiling outlet.

A plate-type humidifier is located in the supply air stream.

Fan cycling control for the heating cycle was not employed, says Wolter, since no complaints of drafts were reported in the gentle air movement when the unit was on the off cycle. Ductwork used was somewhat larger than normal since quietness was desired.

The unit has been in operation for a couple of seasons, and the hotel manager has reported complete satisfaction, Wolter says. Operating costs for the heating season were under original estimates, but this could have been because of less operating time being incurred. It is impossible to estimate operating time because of the uncertain hours of occupancy.

Engineering Posts Go to Ress, Hill at Mueller Furnace

MILWAUKEE — Appointment of O. J. Ress as chief engineer and N. E. Hill as manager of product engineering has been announced by the L. J. Mueller Furnace Co. here, manufacturer of Mueller Climatrol heating and air conditioning equipment.

Ress, formerly research director, fills the post vacated by F. J. Nunlist, Jr., who advanced to general sales manager some time ago. He will be responsible for general supervision of all product engineering activities including design and testing, applicaton, field servce engineering, and the like.

N. E. Hill will be directly in charge of the design and development of new products, including all activities of the design department and the experimental laboratory. He has been with Mueller eight years. Previous to this appointment he was Mueller's chief designer.

Brooklyn Firm Awarded Westinghouse Franchise

BOSTON — A franchise to sell Westinghouse field-assembled air conditioning products has been awarded to Vent-O Air Conditioning Corp. of Brooklyn, N. Y.

Offices for the new Westinghouse distributor will be located at 426 Fourth Ave., Brooklyn and 51 Center St., Hempstead, Long Island.

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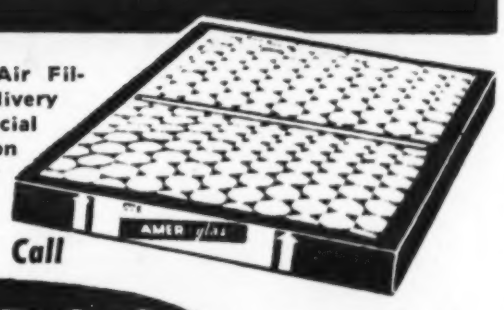

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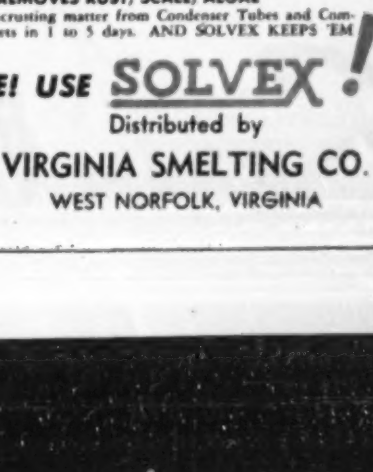
by using
Destructive
Substances?



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Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Complaint: Short Cycling

Question: Will you help me find my trouble? I am working on a 1½-hp. Kelvinator on a walk-in cooler, with a blower coil. What I want to find out is, what makes it short cycle?

It is pressure controlled. The sight glass shows full and liquid shows at the valve. Head pressure is 150-lb. "F-12." Valve seems OK, the screen is clean. Coil is frosted all over.

I purged unit for air. It has a ¼-in. liquid line. Discharge valves check good. I installed a new 1½-hp. drier. Nothing helps. What makes it short cycle?

Answer: The first noticeable fact that could very well be the cause of short-cycling is the size of the liquid line, which you state is ¼ in. That is far too small for a 1½-hp. unit, which should have a liquid line of not less than ½ in. and preferably ⅝ in. if the liquid line is more than 10 or 15 ft. long.

There must be a very large pressure drop through the ¼-in. line, and this pressure drop is causing a large part of the liquid "Freon-12" to vaporize ahead of the expansion valve. It is difficult to see how with a ¼-in. liquid line, the blower coil could be getting enough "Freon-12."

In your letter you mention that the sight-glass shows solid liquid, but you did not mention where the sight glass is located. If it is near the receiver service valve (where it should be as a matter of safety), the sight-glass could show all liquid and still the expansion valve and blower coil could be starved.

You also mention that you get liquid at the valve (presumably the expansion valve). You probably determined this by cracking the unit on the inlet of the valve and got liquid. You could do this, but you probably got gas, too.

The fact that the blower coil was all frosted would seem to show that the blower coil is getting enough "Freon-12," but this is not necessarily true. Much of that frost can be from conduction and not because the entire coil is fully active.

Try the frost on the outlet coil with a wetted finger. If the coil is really fully active, your finger will tend to stick to the coil. If not, your warm finger will probably melt the light frost off.

MACHINE AND COIL UNBALANCED

Of course, there are other things that can cause short-cycling. One fairly common one is that the evaporator (a blower coil in your case) is much smaller than the machine; or to put it more accurately, the capacity of the blower coil in B.t.u. per hour is much less than that of the condensing unit.

In your case, the condensing unit has a capacity of about 14,000 B.t.u. per hour at a suction pressure of 24½ p.s.i.g. corresponding to an evaporator temperature of 25°. If this is a walk-in cooler being operated at around 35 to 45°, the average temperature of the coil should be about 25°, and the corresponding suction pressure about 24 p.s.i.g., while the compressor is running.

If the blower coil is undersized in comparison to the machine, the suction pressure of the compressor will have to drop down enough to reduce the capacity of the condensing unit to match that of the evaporator.

It could well be that the blower coil is the correct size or capacity for the cooler, but that the condensing unit is too large. The capacity of the blower coil in B.t.u. per hour, should be about one half greater than the total heat load on the cooler in B.t.u. per hour.

If the blower coil capacity is correct but is considerably less (say, more than 20% less) than that of the condensing unit, then the remedy is to reduce the capacity of the condensing unit to match it. This can often be done by using a smaller motor pulley in order to raise the average suction pressure to about 24 p.s.i.g.

DIFFERENTIAL OF LOW-PRESSURE CONTROL TOO SMALL

If the blower coil is operated at an average temperature of about 25°, and if its capacity and that of the condensing unit are properly matched, then the low-pressure control would be set to cut out at about 20 to 22 p.s.i.g.

If the blower coil is too small, it may have to be operated at say 20° in order for its capacity to match that of the condensing unit. This means a cut-off of about 17 or 18 p.s.i. To prevent short-cycling, the pressure control would have to be reset to cut off at 17 or 18 instead of 20 or 21 p.s.i.g.

Presumably, the blower coil is being operated on a defrosting cycle; that is, to defrost itself between each running cycle. To get a clean defrost, the pressure control would have to be set to cut in at about 35 p.s.i.g., whether the cut out is at 21 or 17 lbs.

That is, the differential of the control setting must be widened from about 14 p.s.i.g. (35 — 21) to 18 p.s.i.g. (37 — 17).

NOT ENOUGH AIR THROUGH COIL

The blower coil may have been originally selected properly; that is, its normal capacity may have been the same as that of the condensing unit (both based on a 25° average evaporator temperature).

However, the capacity of the coil may have been reduced by not getting enough air through the coil. Perhaps the fins are blocked with ice, or even lint, dirt, or other material. Perhaps someone exchanged the blower fan for a smaller one, or the fan blades have been bent flatter, or the fan motor is running too slow, due to low voltage.

It could be, too, that food or other products are blocking air circulation through the blower coil. Anything that reduces the amount of air through the blower coil reduces its capacity, and at the same time, reduces the coil temperature and the suction pressure, and contributes to short cycling.

But to return to the liquid line. Your first step should be to replace the ¼-in. tubing with one at least ½-in. o.d. At the same time, be sure that the drier, sight glass, and any other accessories in the liquid are comparable in size. You mentioned a "1½-hp." drier, which would seem to indicate that it was a reasonably large one that probably has inlet and outlet fittings of at least ⅜ in. (but should really be larger).

Another condition that could have a similar effect to an undersized liquid line, is one with a long vertical rise. A rise of every foot causes a pressure drop of a little over ½ p.s.i., ("Freon-12") so a rise of 20 ft. would cause a pressure drop due to "static head" of about 11 p.s.i. and which would add to and further aggravate the effects of other causes of pressure drop in the liquid line, and thus further reduce the liquid flow to the expansion valve and blower coil.

(In a previous instalment, we mentioned our "phobia" on pressure drop; here is one instance of how we got that way.)

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

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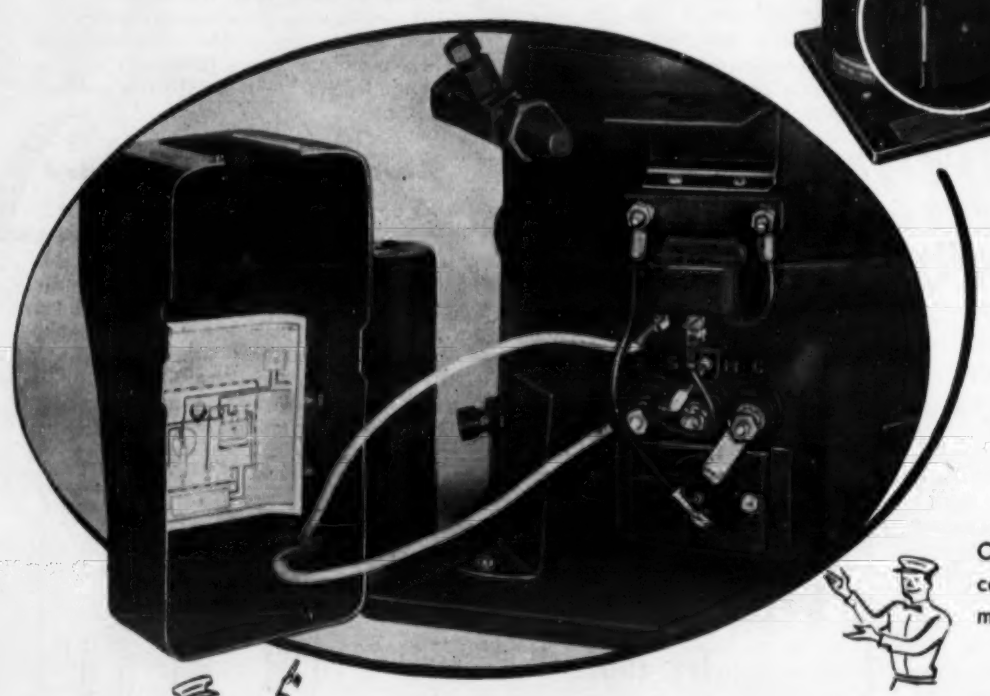

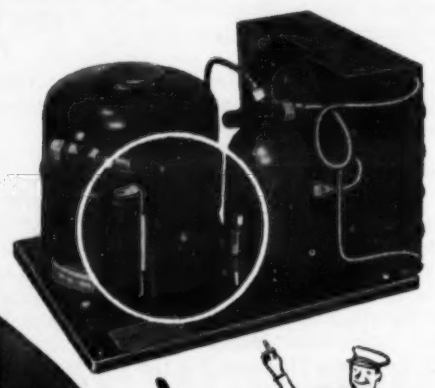

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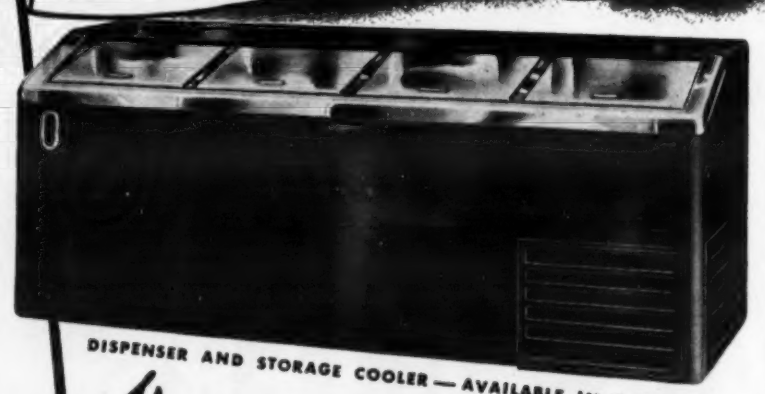

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NEMA Refrigerator Sales for November Hit 278,557 Units

Summary for November and First Eleven Month, 1952
Complete Refrigerators Only—Sales by Sizes—Units

NOVEMBER (16 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft.	....	....	....	....
2. 4 cu. ft.	1,162	....	22	1,184
3. 5 cu. ft.	39	12	7	58
4. 6 cu. ft.	15,753	12	1,439	17,204
5. 7 cu. ft.	31,125	3,204	3,416	37,745
6. 8 cu. ft.	64,684	1,261	3,747	69,692
7. 9 cu. ft.	37,271	1,332	2,954	41,557
8. 10 cu. ft.	51,674	222	611	52,507
9. 11 cu. ft.	49,723	2,385	1,189	53,297
10. 12, 13 cu. ft. and up	5,099	39	175	5,313
11. Total	256,530	8,467	13,560	278,557

FIRST ELEVEN MONTH (16 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft.	....	....	....	....
2. 4 cu. ft.	19,632	95	3,396	23,123
3. 5 cu. ft.	371	383	37	791
4. 6 cu. ft.	240,992	3,474	31,111	275,577
5. 7 cu. ft.	320,946	27,086	29,397	377,429
6. 8 cu. ft.	715,453	16,816	53,645	785,914
7. 9 cu. ft.	626,632	50,182	29,682	706,496
8. 10 cu. ft.	325,342	13,999	10,783	350,124
9. 11 cu. ft.	511,021	14,685	13,216	538,922
10. 12, 13 cu. ft. and up	82,983	975	2,834	86,792
11. Total	2,843,372	127,695	174,101	3,145,168

Participating companies: Admiral Corp.; Avco Mfg. Corp.; Coolerator Co., The; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co.; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Seeger Refrigerator Co.; Westinghouse Electric Co.

Admiral Forms 2 Firms For Foreign Markets

CHICAGO—The increasing importance of the export market to American business was emphasized recently by Ross D. Siragusa, president of Admiral Corp., as he announced the formation of Admiral International Corp. and Admiral Corp. Interamericana to handle the operations of the present international division.

He said the increased sales of television sets and refrigerators overseas and the recent introduction of home freezers, room air conditioners, ranges, and moisture conditioners made it necessary to form the two companies to serve the foreign markets.

James R. Oberly, assistant general counsel and assistant secretary of Admiral, has been elected president of the new subsidiairies, Siragusa said, while George Kende, general manager of the company's international division, has been named vice president.

Admiral Corp. Interamericana will handle sales in the western hemisphere, outside the United States and Canada, while the rest of the world will be the sales territory for Admiral International Corp. Canadian Admiral Corp., Ltd., established in 1946, manufactures and sells Admiral products in that country.

Siragusa said that the company's products now are sold in more than 30 countries. He forecast a substantial increase in export sales in 1953, as television service is introduced to additional countries throughout the world.

Admiral TV receivers now are sold in a dozen countries and the company sponsors Spanish language television programs in Cuba, Mexico, and Argentina, and a Portuguese program in Brazil.

York '52 Sales Rise 3% over '51 To Set All-Time Record, But Earnings Drop 4%

YORK, Pa.—York Corp.'s sales for the year ended Sept. 30, 1952, rose 3% over fiscal 1951 to set an all-time high for the company, but earnings declined 4%, according to S. E. Lauer, president.

Completed sales for the year totaled $59,152,678, compared with $57,536,555 for the previous year. Earnings after all taxes and charges were $2,541,049, or $2.26 a common share, against $2,656,311, or $2.37 a share, in 1951.

Lauer said the reduction in net earnings, despite higher sales, can be attributed mainly to cost increases against which no price relief was obtainable from the Office of Price Stabilization.

SOURCES OF ADDED COSTS

Principal sources of these added costs, he explained, were wage and salary increases averaging more than $1,400,000 annually; higher prices of materials, parts, and equipment; and increased costs of engineering development and factory production engineering in preparation for defense work.

Lauer pointed out that another penalty to earnings resulted from an average level of factory activity 14.7% below 1951.

"While we planned a lower rate of production during the first six months for the purpose of depleting certain inventory items in distributor and factory warehouses," he stated, "we fully expected to make up the difference by accelerated production in the last six months.

"Scarcity of materials and their intermittent flow under the Controlled Materials Plan prevented our accomplishing this purpose. The result was a lower absorption of fixed overhead in the manufacturing division."

Lauer said the company planned an inventory reduction during the year of about $3,000,000 and this was attained at the end of August, 1952, when the consolidated inventories amounted to $16,580,365.

"This was substantially increased during September since we started production of packaged air conditioners at the beginning of October—almost three months earlier than in previous years, and production of certain defense orders started about the same time," he reported.

"The accumulation of materials, parts, and equipment, during September, to assure continuous production of these items increased the fiscal year-end inventory to $18,047,383."

New gross business booked during the fiscal year of $64,353,842 was less than 1% below bookings in the previous year. About 26% of this new business related to defense.

Lauer continued: "Movement of York products to consumers through our distributor-dealer organization reached a new high dollar value this year. These products were mainly packaged air conditioners and ice makers . . .

"Due to restrictions upon allocation of materials under the Controlled Materials Plan and the unprecedented demand for air conditioning products during the summer months, we were not able to meet the total demands of our distributor-dealer groups and their customers. It is anticipated that the early start of production will avoid this situation in 1953 . . .

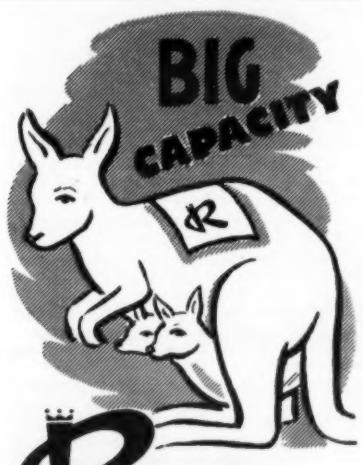
"About 15% of the volume of new orders booked during the year was derived from the sales of accessory equipment, supplies, parts, and maintenance and service contracts. It exceeded all previous sales records in that segment of our business.

EXPORT ORDERS

"Orders booked in the export field . . . amounted to about 8½% of the company's total new business. This compares with 9% in 1951."

Uncompleted contract orders at the end of the year amounted to $23,608,776, compared with $20,137,959 a year earlier.

Reviewing operations, Lauer said York was adding parallel production lines to permit the manufacture of alternate models of packaged products. He noted that this should "greatly relieve harassment due to unsteady flow of materials."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Remington Names Schmidt Director of Engineering

AUBURN, N. Y.—Appointment of Walter Schmidt as director of engineering of the Air Conditioning Div. of Remington Corp. was announced recently by Herbert L. Laube, president.

Walter Schmidt

Schmidt will head the division's engineering and design activities including the expanded new products development program, redesign of present room air conditioner models, production quality control, and operation of the experimental laboratory.

Ralph Ackart, chief engineer of Remington, will continue in that position, concentrating on redesign of the division's line of console-type room air conditioners, which are produced and sold by Remington and are also sold by RCA-Victor Div. and Fedders-Quigan Corp.

Prior to joining Remington, Schmidt was chief engineer of Koch Refrigerators, Inc. and previously was with the Refrigerated Cabinet Div. of Anheuser-Busch; the Deepfreeze Div. of Motor Products Corp., and the Air Conditioning and Commercial Refrigeration Div. of General Motors. Schmidt has a B.S. degree in mechanical engineering.

Sidles Handles Bendix

OMAHA, Neb.—The Sidles Co. here with branch houses in Lincoln, western Nebraska and Iowa, has been appointed exclusive Bendix home appliance distributor for Nebraska and Iowa.

Certified Appliance Forms as Kelvinator Service Agency

DETROIT—The formation of Certified Appliance, Inc., 2051 W. Fort St. here has been announced by its president, Harley R. Ferguson, as the exclusive servicing agency for Nash-Kelvinator Sales Corp., Detroit Zone, on all Kelvinator, Leonard, and ABC appliances.

Certified Appliances will also be the wholesale distributor for Kelvinator commercial refrigeration equipment and serves as parts depot on Kelvinator, Leonard, and ABC products, Ferguson said.

Ferguson, who has had 30 years' service experience with Nash-Kelvinator Sales Corp., Detroit zone, leaves to become head of this new business.

M-H Industrial Division Names Wilson to New Post

PHILADELPHIA — O. B. Wilson has been named industrial instruments sales manager for the Industrial Div. of Minneapolis-Honeywell Regulator Co., it was announced by L. Morton Morley, vice president.

Wilson's assignment to the newly created post is part of a long-range integrated program to implement the company's sales organization to meet the increased complexities of the firm's industrial marketing problems, Morley said.

Wilson joined Honeywell in 1923. He was industrial manager in Chicago, New York, and other offices. In 1948 he was made industrial manager for the eastern sales region. Early last year Wilson was named field sales manager for the Industrial Div.

Holder Opens Appliance Store

GREENVILLE, S. C.—Holder's Appliances has just opened for business at 1517 Augusta Road here.

E. P. Holder, owner-manager, said that he will handle the Crosley line.

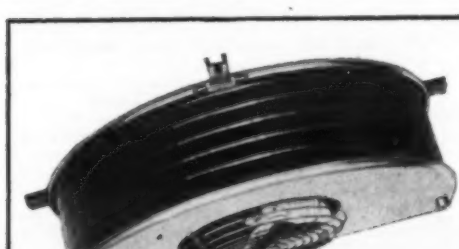
Maney Elected President Of Rockford, Ill. Assn.

ROCKFORD, Ill.—Nick Maney of Johnson-Maney was elected president of the Rockford Appliance Dealers Association at the January meeting.

R. S. Chockley of Hedrick Electric Co. was elected vice president and C. T. Van Ausdall of the Rockford Chamber of Commerce was re-elected secretary.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.


Lowest BTU cost.
It saves space and assures uniform temperatures.
In six sizes, 3,500 BTU's to 20,000 BTU's per hour
LARGE
CURVETTE
by KRAMER
Write for Bulletin C-192
KRAMER TRENTON CO. • Trenton 5, N.J.

SALES MANAGER

Must be thoroughly acquainted with refrigeration condenser field and have volume accounts. Top salary for real producer.

Mercury Manufacturing Corp., 45 Brown St., Buffalo 11, N. Y.

LOOK... no other water valve has all these features!
No Water Hammer
Highly Sensitive to Refrigerant Head Pressure
No Sticking of Seats
Easy Manual Flushing
Eliminates Rusting of Range Spring
No Corrosion or Sedimentation on Sliding Parts
PENN

If you haven't tried the PENN Series 246 Water Valve . . . use it on your next refrigeration job. You'll be amazed at its performance and its ability to *stay* on the job much longer than any other water valve!

These valves are built in sizes from ⅜" to 2½" and in flanged or threaded styles. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Ind.** Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.

PENN AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request **to the purchasing officer under which the purchase is listed** in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request is made.

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. **Ordnance District Offices do not have information on any other purchases.**

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q."

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Purchasing and Contracting Division, Warehouse 2, Fort Bliss, Texas			
Repair and replacement of Evaporative Cooling Units, Fort Bliss, Texas, Drawing No. FB-1999 Sheet 1 Repair 548 Replace 67	Job	(E 41-014-53-5B)	19 Feb 53
Armored Center, Central Purchasing & Contracting Branch G-4, Fort Knox, Kentucky			
Replace existing hot air heating system in the Officers' Country Club with new steam heating system, at Fort Knox, Kentucky	Job	(15-014-53-79)	18 Feb 53
Kansas City District, Corps of Engineers, U. S. Army, 10 E. 17th, Kansas City, Missouri			
Construction of central heating plant and distribution system at Sedalia AFB, Knobnoster (Johnson County) Missouri. Work consists of central high-temperature water heating plant and distribution system complete with boilers, piping, etc. or central steam heating plant and distribution system, including steam generators, piping, etc.	Job	(ENG-23-028-53-79)	25 Feb 53
General Stores Supply Office, 700 Robbins Avenue, Philadelphia 11, Pennsylvania			
Cooler complete self contained electrically operated unit Intermi Fed SPEC C-566-B GSA FSS	415 ea.	4-1294-B	13 Feb 53

GENERAL SERVICES ADMINISTRATION

Business Service Center, General Services Administration, Region 3, Washington, D. C.			
Evaporative condenser, nominal 50 ton.	1 ea.	(4H-24882-R)	1-16-53
Compressor, nominal 49 ton.	1 ea.	(4H-24882-R)	2-16-53
Business Service Center, General Services Administration, Region 8, Bldg. 41, Denver Federal Center, Denver, Colorado			
Silica gel (open end contract), spec. AN-D-6C grade A, type 5 in 5 lb, 1 lb, 8-4-1 oz bags	Item	4628	2-9-53
Business Service Center, General Services Administration, Region 5, 219 S. Clark St., Chicago, Illinois			
Refrigerators: Fed. Spec. AA-R-211c	11 ea.	CHD-1036	2-11-53

CONTRACTS AWARDED THROUGH JAN. 26

Procurement Office, Robbins Air Force Base, Georgia
Rehabilitation of Air Conditioning and Refrigeration Equipment.—1, $74,946.—Carrier Atlanta Corp., 334 Walnut St., Macon, Georgia

Department Of The Navy, Bureau of Ships, Washington, D. C.
Soda Fountain Equipment Condensing Unit for Soda Fountain Equipment.—98, $245,314.—The Bastian-Blessing Co., Chicago, Illinois

Corps of Engineers, United States Army, Office of The District Engineer, Sacramento District, Wright Bldg., 1209-8th St., Sacramento, California
Refrigerated Battery storage bldg. Sacramento Signal Depot, near Sacramento, Calif. Air Base Group.—Job, $282,163.—James P. Morton, 33 Clay St., Placerville, California

Corps of Engineers, U. S. Army, Office of the District Engineer, Jacksonville District, P.O. Box 4970, Jacksonville, Fla.
Installation of heating and air conditioning system for central control building, AFMTC, Patrick AFB, Cocoa, Florida.—Job, $28,100.—D. W. Browning, 116 E. Fairview Ave., Daytona Beach, Florida

District Public Works Officer, 62nd Office in Charge of Construction., P.O. Box 365, United States Naval Base, Charleston, South Carolina
A&E Services for Heating, Air Conditioning and Ventilation, Two Denver Type Hangars, Forrest Sherman Field, NAS, Pensacola, Fla.—Job, $15,000.—Maurice H. Connell & Associates, Suite 200, Langford Bldg., Miami, Florida

Purch. & Cont. Office, Luke Air Force Base, Glendale, Arizona
Miscellaneous modifications in the Hospital Area, Luke Air Force Base, Glendale, Arizona, Contractor to furnish all plant, labor, supervision and equipment to construct partitions, relocate plumbing fixtures, evaporative coolers.—Job, $31,595.—E. J. Wasielewski Corp.

General Services Administration, Business Service Center, Region, Washington, D. C.
Class-63-Portable Drinking Fountains 3/1/53—2/28/54.—Indefinite. —Dobbins Mfg. Co., 702 W. Beardsley Ave., Elkhart, Indiana.

General Services Administration, 49 Fourth St., Room 436, San Francisco 3, California
Alterations to Air Conditioning System, Post Office Building, Calexico, California.—$12,022.—York Imperial Co., 1461 Main St., El Centro, California

General Stores Supply Offices, 700 Robbins Avenue, Philadelphia 11, Pennsylvania
Valves: Temperature Regulating.—1,955 ea., $116,330.—Sarco Co., Inc., 350 Fifth Ave., New York 1, N. Y.

Honeywell Names Three To New Sales Positions

MINNEAPOLIS—The appointment of three men to new sales positions with Minneapolis-Honeywell Regulator Co. was announced by K. L. Wilson, manager of the firm's heating controls division.

Eldon L. Richardson, for the past seven years manager of the company's Salt Lake City sales office, becomes supervisor of the new home market, with headquarters in Minneapolis.

He has been with Honeywell since 1942, and before being assigned to Salt Lake City was senior sales' engineer in the home office sales division.

Harold Chamberlain is named modernization market supervisor. He is returning to Honeywell following a four-year absence during which he has been operating his own company —Chamberlain Heating Engineering, Inc.—in Detroit.

The responsibilities of Bert Engstrom as assistant sales manager of the wholesale division are being expanded to cover the entire country. Engstrom, who has been with Honeywell since 1947, previously covered the territory west of the Mississippi.

Harderfreez Appoints Two New Distributors

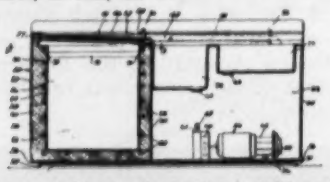
NILES, Mich.—Two new distributors have been appointed to handle the Harderfreez home freezer line, according to Dick White, sales manager, Harderfreez Div., Tyler Fixture Corp.

Crandall Wholesale Co., Detroit, has been given an exclusive franchise covering 28 counties in Michigan. Hanlon-Snitz & Co., Kansas City, has been franchised for 26 Missouri counties, plus the entire state of Kansas on an exclusive basis.

PATENTS

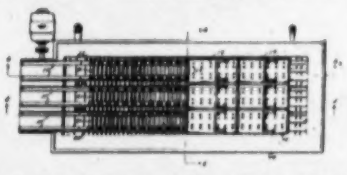
Week of October 21 (Continued)

2,614,401. TOP ACCESS REFRIGERATOR AND COVER THEREFOR. Bernard Roberts, Bronx, N. Y.



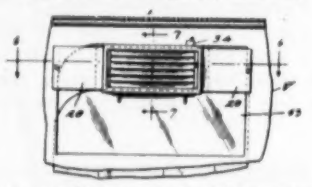
1. In a cabinet of counter-height and in combination, an outer case substantially counter-high, said case being open at the top, a partition wall positioned within said case and extending from the front wall to the back wall thereof to subdivide said case into two adjoining compartments, said partition wall forming a wall common to both compartments, a deep-freezing food storage well positioned in one of said compartments, said well being open at the top and having side and end walls and a bottom wall otherwise completely enclosing said food-storage well, of lesser dimensions than said compartment thereby forming a chamber between the side, end and bottom walls of said well and the side walls, end wall, partition wall and bottom wall of said compartment, heat insulating material packed in said chamber to oppose passage of heat from said side, end, bottom and partition walls to the walls of said well, a sink positioned in said other compartment, the top edges of the side and end walls of said well and the mating edges of the corresponding walls of said outer case being spacedly separated from each other to define a gap, a strip of material of high thermal resistance positioned in and preventing conduction of heat across said gap, the top edges of said well and of said sink being disposed on substantially the same level, the walls of said cabinet, well, and sink, in conjunction, co-operating to define a spaced pair of oppositely disposed parallel guide-channels extending lengthwise of said cabinet and overlying said well and said sink, a hollow drain board defining a cover-member, the cavity in said cover-member being packed with heat insulating material to oppose passage of heat therethrough, said cover-member being slidably movable in said guide-channels to alternatively overlie either the mouth of the well or the sink opening, and said cover-member in one position thermally sealing the mouth of said well and defining a counter-top draining into said sink and in the other position forming a sink-cover and loading-platform for food to be stored in the well.

2,614,403. MOLD FREEZING APPARATUS. Walter E. Heise, Syracuse, N. Y.



1. A freezing apparatus for confection molds comprising a tank containing a liquid cooling medium, a guide rail extending lengthwise of the tank for supporting a procession of molds, said tank being formed with an up-flow compartment arranged centrally below said guide rail and extending lengthwise thereof, a down-flow compartment extending adjacent each side of said up-flow compartment, a series of refrigerating tubes extending lengthwise in said up-flow and down-flow compartments, a series of fins arranged on said tubes, said fins being spaced apart in a direction lengthwise of the tubes and forming vertically arranged tortuous passages for the flow of cooling medium, the fins in said up-flow compartment having laterally extending flanges at their upper ends to restrict the discharge area of said passages, and a circulating means having a discharge connected to said up-flow compartment and a suction connected to said down-flow compartments.

2,614,478. AIR CONDITIONING MEANS FOR MOTOR VEHICLES. James H. Herman, Jr., Austin, Tex., assignor of one-fourth to Carl Thornquist, Austin, Tex.



An air conditioner for vehicles comprising a stationary air cooling unit, an air conducting pipe extending from said unit, an upright hollow post, a vertical pipe within said post connected to said first pipe, a flexible tubular member connected at one end to said vertical pipe, a rectangular exhaust housing including rear walls, and slotted side walls, said rear walls having an opening therein, and a flange around said opening connected to the other end of said flexible member, said housing including an open front forming an outlet, and louvres across the outlet, a pair of closure plates extending transversely of said outlet and slidably extended through the slots in said side wall housing, said closure plates when in extended position opening said outlet and forming laterally projecting extensions of said housing whereby to cooperate with said housing in closing a vehicle window opening, and means carried by said post for supporting the said housing when the latter is disengaged from a vehicle window.

2,614,400. CHARGING VALVE IN REFRIGERATION APPARATUS. Edward M. May, Detroit, Mich., assignor to Meco-Pilot Mfg. Co., Detroit, Mich.

8. In closed circuit refrigeration apparatus, the combination of a valve device body structure having an interior chamber, a first passage in free communication with said chamber and leading to the exterior of the body, a second passage with associated valve seat in communication with the interior chamber and leading to the exterior of the body and a third passage with associated valve seat also in communication with the interior chamber and leading to the exterior of the body; a valve for the second passage of the body structure arranged to cooperate with the seat thereof to control flow between the valve and the wall of the passage, said valve being exposed through the second passage to the exterior of the valve body and being formed with a passage opening at one end through the exposed part of the valve for hermetic connection to an end of a conduit disposed outside the valve body and opening at its other end into the interior chamber of the valve body; a valve arranged to cooperate with the seat of the third passage to control flow therethrough; and manually operable means for moving the valves relative to their seats.

Subscribe Now

Receive the greatest trade paper in the Industry—Air Conditioning & Refrigeration News. Published every week. Brings you latest news and vital information on household refrigeration, commercial refrigeration, air conditioning, home freezers; manufacturing, distributing, retailing, servicing, and contracting. Only $5 per year, 52 issues.

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Company.....

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2-2-53

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

ATTENTION MANUFACTURERS. Former distributor of Commercial Refrigeration and Air Conditioning equipment, large metropolitan area, now a permanent resident of Florida, not retired, is desirous of connecting with progressive manufacturer of equipment, parts or supplies, as representative for South East portion or all of Florida; 25 years successful experience in industry including distributor and dealer contacts; commission or brokerage basis. BOX 4220, Air Conditioning & Refrigeration News.

SALES ENGINEER or district representative, twenty years refrigeration experience, ammonia & freon, ammonia booster, freon two stage. Packing plant, beverage, ice cream and milk plant applications. Experience includes design, installation and service. Last seven years operating own contracting business. Member A.S.R.E. Excellent references. BOX 4221, Air Conditioning & Refrigeration News.

WANTED CONNECTION as assistant to top executive in refrigeration or frozen food packing industry who can best cash in on exhaustive research done on long range aspects of basic fundamentals as they pertain to the design of freezing and storage equipment as they affect the quality of frozen food and particularly in long term storage. Thoroughly familiar with all phases, but especially with design and practices as they are affected and should be influenced in accordance to the laws of the fundamental food chemistry involved. Thoroughly capable of producing results in executive capacity in sales, product development, administrative or quality control. BOX 4223, Air Conditioning & Refrigeration News.

RESIDENTIAL AND Commercial Air Conditioning—Engineer, 32, BSME, Registered, 10 years' experience with leading manufacturer in design, development, application. Desire position with responsibility and opportunity with distributor, contractor, or small manufacturer. BOX 4224, Air Conditioning & Refrigeration News.

SERVICE MANAGER, over twenty-years experience in the refrigeration and air conditioning sales and service business. Desirous of a position with contractor or manufacturer. Can furnish best recommendations. Willing to travel if necessary. BOX 4228, Air Conditioning & Refrigeration News.

WHOLESALE REFRIGERATION supply representative. Twenty years of service and sales experience. Seeking new employment in Eastern state with wholesaler or manufacturer. Qualifications to assume responsibility. Will be highly recommended by previous and present employers. Willing to travel. BOX 4229, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVE wanted. Good opportunity for representatives who call on refrigeration equipment dealers and distributors. Desirable territories open with active accounts in most areas. State experience, territory covered, and industry references in first letter. COLDIN CABINET CO., INC., 2800 Webster Ave., New York 58, N. Y.

DESIGN ENGINEER to fill position as project engineer. Experienced in sheet metal and cabinet design. To be able, after short training to handle own department with little supervision. Write to FOGEL REFRIGERATOR COMPANY, 5400 Eadom St., Philadelphia 37, Pa.—attention of William Fogel.

ENGINEER RESEARCH and Project Development Program. Progressive, well established manufacturer of valves, fittings and accessories serving the refrigeration and air conditioning, liquefied petroleum gas and high pressure gas industries, requires graduate mechanical or chemical engineer with experience, initiative and imagination, to conduct research and develop new products in present or related lines of manufacture. Pleasant, diversified, interesting work. Write complete information concerning education, experience, salary expected and references. Mr. Fullerton, SUPERIOR VALVE AND FITTINGS COMPANY, 1509 West Liberty Avenue, Pittsburgh 26, Pennsylvania.

SALESMAN WANTED—A man who has sold Air-Conditioning or similar equipment. Engineering background not essential as we can give expert assistance. Our seven county York-franchised territory really has big potential. Our pricing plan is competitive. Our small organization is "made to order" for the man who sells best when unhampered by red-tape, and sees that he has every opportunity to develop as far as he wants to. All replies will be treated confidential. YORK-MAHONING COMPANY, 232 W. Boardman St., Youngstown, Ohio.

DESIGN & DEVELOPMENT engineers. Nationally-known manufacturer of self-contained air-conditioning equipment offers career opportunities in Eastern plant. Salary and future prospects with the company are good. Our people are informed of this ad. Send resume of education and experience to: BOX 4197, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER with some experience on home freezers, room coolers, and other end products. More than experience, we want someone with gumption, who realizes that real opportunity comes to those with persistence. If you qualify, answer, opportunity, money, and responsibility will be there. If not, please forget you read this notice. BOX 4201, Air Conditioning & Refrigeration News.

SUPPLY HOUSE, long-established, is seeking a capable man to take complete charge of our newly created air conditioning and refrigeration supply department. This is a good opportunity for right man. BOX 4225, Air Conditioning & Refrigeration News.

SALES ENGINEER: Nationally known Midwest manufacturer of commercial condensing units and packaged air conditioning. Permanent position, salary, expenses and commission. Must have car and be willing to travel; dealer contact in Texas, Oklahoma. Experience in this field desired. State age, education, past connections in first letter. All of our employees know of this ad. BOX 4226, Air Conditioning & Refrigeration News.

ENGINEER, AIR CONDITIONING. If you are both young and ambitious, we offer a remarkable opportunity—the security of an engineering position plus the incentive of additional sales work. Sales experience not necessary, as we will train you. Established progressive Carrier distributor, midwest city. Don't answer if you're satisfied with a desk job. Personal interview arranged at our expense. Write full details first letter. Will be held confidential. BOX 4227, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NEW UPRIGHT Freezer—20 cubic feet; over 700 lb. capacity; Modern design; gleaming white exterior; Extra-Quick Freezing with five freezer plate shelves. Complete with ⅓ h.p. Tecumseh sealed unit self-contained: Temperature Control & (5) Ice Cube Trays. Special Dealer Price $359.00. GENERAL REFRIGERATORS CORP., 2011 First Ave., N.Y.C.—ENright 9-0200.

BRAND NEW 1952 frozen food merchandisers original crates. Model FDS18A, 18 cu. ft. thermopane doors; ultra modern superstructure; Kelvinator unit, 5-year warranty. Factory list $733.50, your cost $371.00. Order immediately; send for illustrations MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y.

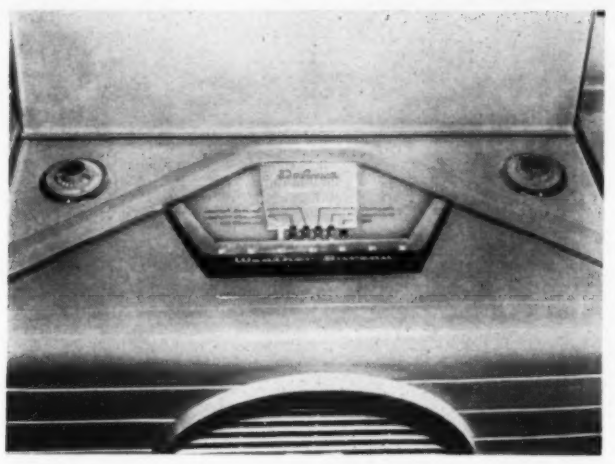
FRANCHISES AVAILABLE

MERCHANDISER WANTED. Wholesale distributor has excellent business opportunity consisting of a Frigidaire appliance franchise available for some live wire merchandiser who can develop an outside selling organization. This city is located in the southwest and has a trade area of approximately 250,000 people. At the present time there are only two other accounts in town. Please give us your business experience and financial condition in your first letter. BOX 4203, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

FOR SALE: Refrigeration Sales & Service business. Northern New England. Best franchise in the business. Little competition. State wide coverage. 90% of volume to large industrial accounts. Ammonia & Freon. Center of summer & winter resort area. BOX 4222, Air Conditioning & Refrigeration News.

ROOM COOLER NEWS



THE WEATHER you want at the flick of a finger is said to be possible with the new "Weather Bureau," a pushbutton control system incorporated in the 1953 Fedders line of room air conditioners. Control system selects coolness, ventilation, and exhaust.

Palaces To Be Cooled So They'll Be Fit for a King—Ibn Saud of Saudi Arabia

SYRACUSE, N. Y. — The three palaces of Saudi Arabia's King Ibn Saud are to be equipped with Carrier air conditioning.

Orders for 39 units have been placed with The National Trading Corporation, S.A., Carrier's representative for Lebanon, Syria, and Saudi Arabia, for the Jeddah, Mecca, and Riadh palaces.

Three Carrier "Weathermakers" were selected for the King's Council in Jeddah while three more will serve to cool the spacious dining room. The Queen's wing and Council will similarly be cooled by three other units.

In the royal quarters at Mecca, nine 1-hp. and four 1½-hp. console models will air condition the wings of the palace which the Princess and Princes occupy. In addition, the larger Weathermakers will be installed in the Queen's dining room and the Reception Room.

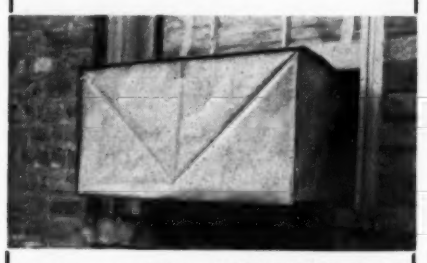
The King's Council in the capitol, Riadh, will be cooled by two 10-hp. Weathermakers.

Grille Offers Variations

TWELVE-WAY GRILLE CONTROL on the 1953 RCA Model "Fifty" ½-ton room air conditioner is demonstrated by Mildred Rago. Model is more compact than previous one, features a built-in thermostat.

PROTECT!

ANY SIZE, ANY MAKE WINDOW AIR CONDITIONER WITH



NEW "ALL-WEATHER" COVER*

*Pat Pending

ATTRACTIVE • DURABLE

- Made of extra-heavy Vinylite. Wire frame insures snug fit.
- Simple to put on.
- Prolongs life of unit.

Valuable promotion use for manufacturers. Extra revenue for dealers and service organizations.

Send us your specifications for quantity prices.

ALL-WEATHER SUPPLY CO., Inc.
1186 Broadway, New York 1, N. Y.

MISSING SOMETHING?

More and better useful information is yours for the asking. See "What's New" page.

Use Key No. for fastest service.

Genuine Joe says: "WAGNER BEARINGS are BEST..."

Wagner's 87% tin babbit-lined bearings are best because they have:

1. Extreme load-carrying capacity.
2. Excellent anti-seizure properties.
3. High resistance to corrosion by acids present in oil.

MBH-9

Wagner Electric Corporation
6671 PLYMOUTH AVENUE, SAINT LOUIS 14, MO., U. S. A.

Frostie, the Snowman, Works for Mitchell Dealers

FROSTIE, the Mitchell snowman, provides an invitation to buy air conditioners. Frostie lights up at night and his cheery vinyl face is washable.

* * *

CHICAGO—An eye-catching invitation to buy air conditioners all year 'round, Frostie, the Mitchell snowman, is part of the most complete line of window displays ever issued by the Mitchell Mfg. Co., company officials declared recently.

The snowman, wrapped in a muffler, mittens, and cap, displays a label telling the customer "It's cool inside with a Mitchell."

Frostie is in a series of year-round window trims already used in Mitchell's special Christmas promotion, and designed to be equally effective on sweltering summer days.

Other pieces in the snow series include a long border of snow to frame the entire window and a Mitchell headquarters sign dripping with icicles.

The displays were created especially to sell Mitchell's new air conditioner that heats as well as cools.

The snowman, heavily embossed in three-color Vinyl plastic, lights up at night and is noninflammable. Colors are permanent and washable. The display is equipped with a 6-ft. cord.

New York Appoints Jerry Hart As Sales Promotion Specialist

NEW YORK CITY—York Corp. has recently announced the appointment of Jerry Hart to the position of advertising and sales promotion specialist for the north Atlantic district.

Hart was formerly sales and advertising manager of the Pilot Radio & Television Corp. and, previously, assistant advertising and sales promotion manager for Gross Distributors, Inc.

He will operate out of New York City and will cover the entire north Atlantic district assisting distributors in their own promotional programs. In addition he will develop and stimulate factory organized campaigns.

Greensboro, N. C., Dealers Elect Henry Orr Chairman

GREENSBORO, N. C.—Henry Orr, Duke Power commercial manager, has been elected chairman of the Greensboro Appliance Dealers Association.

Orr succeeds Roger Probert of Meyer's Department Store. Also elected were Emile Hodge of Emile Hodge, Inc., vice chairman, and Charles Strandberg of Strandberg Laboratories, secretary.

Drum and Bugle Corps Heralds Avery's Opening

SEATTLE—John Avery, formerly with McDougall's, has opened his own store—Avery's Appliance, Inc.—at 7118 Empire Way in Holly Park here. Tom Sarino is associated with Avery in the firm.

The drum and bugle corps of the University district post of the American Legion and an orchestra participated in the grand opening celebration. Ten dollar purchase coupons and door prizes were passed out to all visitors.

Appliance Firm Chartered

BATON ROUGE, La.—Charter of incorporation has been granted Herbert Lambert Plumbing & Appliances, Inc., 1805 Jefferson Highway. Capital stock was listed at $100,000.

big new air conditioning market for Ranco controls

Air conditioning is the big, fast growing market for refrigeration controls. You can cash in on it with the new Ranco models. In addition to exact replacements, the new Ranco general replacement control can be used to modernize many units not originally equipped with controls, without the use of special tools. See your wholesaler about Ranco models available for refrigeration applications.

RANCO CONTROLS

Ranco Inc.
COLUMBUS 1, OHIO

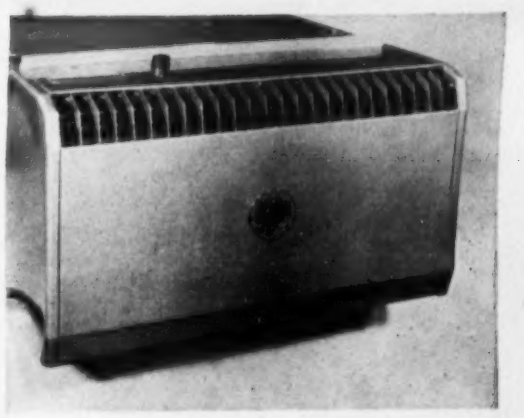
WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

FRIEDRICH CREATES SELLING SENSATION WITH FRIEDRICH *floating air* ROOM CONDITIONERS!

...New! Units introduced last Fall sold out production first week.

FOR QUIETNESS
COLD-AIR OUTPUT
APPEARANCE
STURDY CONSTRUCTION
FRIEDRICH

ROOM-CONDITIONERS LEAD THE FIELD YET THEY'RE PRICED WITH THE LOWEST!



MORE than 70 years of heavy-duty commercial refrigeration experience has gone into these room conditioners. They are built to deliver more cold air under severe climatic conditions and to stand up under constant use without service difficulties.

Your customers will go for these features:

1. **Heavy duty cooling capacity.**
2. **Complete humidity control.**
3. **Quiet operation — *insulation* against noise.**
4. **Simple to operate.**
5. **Wide choice of air direction.**
6. **Inconspicuous — only 9½" into room.**
7. **Handsome styling in bonderized steel and baked enamel.**
8. **Five-year warranty.**

You'll go for the easy installation, the trouble-free operation and our policies: no fancy terms, no advertising allowance—just low prices for maximum turn-over and profits.

Write for details on exclusive territories — first come, first served — better wire!

FRIEDRICH REFRIGERATORS INC.

1117 EAST COMMERCE, SAN ANTONIO 5, TEXAS

ASHVE Stresses Home Heating, Cooling--

(Concluded from Page 1, Column 4)

the calculated design cooling load of 25,000 B.t.u. per hour which was obtained by using the sol-air temperature method given in the 1952 Guide."

Even though the actual capacity of the cooling unit was 4,000 B.t.u. per hour below the design cooling load of 25,000 B.t.u. per hour, room air temperatures rose only slightly more than 1° F. above the indoor control temperature when outdoor design conditions of 90° F. d.b. and 76° F. w.b. were exceeded, according to the authors of the paper, H. T. Gilkey, D. R. Bahnfleth, and R. W. Roose.

It was also found that the time lag of heat flow through the wall and ceiling of the one-story frame residence was less than that predicted by the Guide—2 to 3 hours instead of 5 hours.

"In several cases temperatures of the interior surfaces of the exterior walls reached their maximum values before the temperatures within the walls reached their maximum values," the authors said.

Some progress toward absolute removal and destruction of odors and bacteria in air were indicated in another paper. This was presented by Dr. R. L. Kuehner, York Corp. research engineer, who reported some results of nine years' research on the problem.

Practical importance of this was explained by Dr. Kuehner:

"Until a satisfactory air sanitation means is found, the industry is faced with the penalty of outside air required to preserve decent indoor conditions. U. S. Naval research has established that only 1 c.f.m. outside air per person is necessary to maintain proper oxygen and CO_2 levels, yet 20 to 30 c.f.m. outside air is common practice for ventilation purposes.

"Consider the reduction in first cost and operating cost when an air sanitizer is being substituted for outside air."

In the main, Dr. Kuehner's paper dealt with the experimental procedure devised to measure odors chemically, and various similar work in bacteria control.

NO 'SHOCK' FOUND IN SUDDEN TEMPERATURE CHANGE

"Entering and leaving air conditioned spaces does not cause a shock; the word 'shock,' in fact, should no longer be used by the air conditioning engineer," declared Prof. Nathaniel Glickman of the University of Illinois in commenting on another technical paper.

This reported a study to compare the physiological adjustments made by men and women to sudden changes in environment. The project was sponsored by the society and the U. S. Public Health Service in cooperation with the U. of I. College of Medicine.

It was found that women adjust as readily as do men to sudden entrance into a hot, humid environment.

Their skin temperatures rise promptly, even faster than observed for men. Sweat is slower to appear than in the case of men. As women leave a hot, humid room and enter one which is normally comfortable, they feel cool, stop sweating, and rapidly adjust their skin temperatures much as do men.

PANEL HEATING HANDLED IN 2 PAPERS

Panel heating was the subject of two papers presented at technical sessions of the society. One reported heat exchanges within a ceiling panel heated room at the ASHVE Research Laboratory in Cleveland.

"Total heat output of the ceiling panel was much lower than is given in some presently used design methods," it was observed. "This seems to be due principally to the fact that convection conductances obtained from the ceiling panel appear to be much lower than presently published data would indicate," concluded the authors, C. M. Humphreys, G. V. Parmelee, and L. F. Schutrum.

Importance of proper design and installation of the basic heating system, as well as the importance of selection and location of the various control elements used for radiant panel heating, was emphasized by E. F. Snyder, Jr. of Minneapolis-Honeywell, who with Prof. A. B. Algren of the University of Minnesota and J. S. Locke, also of M-H, reported results of a two-year study on floor type panel heating systems in two factory buildings and a residence.

Air Conditioning Show--

(Concluded from Page 1, Column 5)

nation's largest producers and distributors of heating and plumbing supplies); Chelsea Fan & Blower Co. (which has specialized in fan and air moving equipment); Viking Air Conditioning Co., (which has manufactured air moving and air heating equipment); and Norge Heat.

Newsworthy also was the display of more and expanded lines of integral-horsepower hermetic and semi-hermetic refrigeration compressors. Brunner Mfg. Co. and Trane Co. introduced new lines of such units, while Tecumseh and Copeland showed expanded lines of such equipment.

Introduced by Brunner Mfg. Co. was its line of "Brunner-metic" fractional-horsepower accessible hermetics, which probably will be extended to integral horsepower sizes later on.

A great many manufacturers of condensing units (particularly those in 3-hp. sizes and above) were showing self-contained packaged "residential cooling systems" for use with forced warm-air heating systems in cooling new or existing homes.

In the larger type of cooling systems there was a noticeable trend to expansion in lines of water chilling systems in large capacities, with Servel, Chrysler Airtemp, Worthington, Westinghouse, York, and others offering expanded lines of such equipment.

There were fewer "heat pumps" (reverse cycle systems) on display than there have been in previous years, although from the talk heard at the exposition and the ASHVE meetings there is no diminution of interest in the heat pump and there is considerable evidence that the number of applications is increasing rapidly, particularly in the southeast and southwest.

One of the problems that may face the industry this year, particularly in the residential year-round systems which are generally assembled systems, is a possible scarcity of, or delay in, the procuring of component parts for such systems. Manufacturers of such components are finding difficulty in meeting demands for certain of these items.

That there is a stepped-up demand for air conditioning equipment in the field was attested to by manufacturers of air conditioning units, particularly year-round systems, who say they are having difficulty in filling the demand from dealers and contractors.

A good part of this, it is felt, may be a desire on the part of these dealers to "stock up" with some units in order to be "in on the new market" as early as possible.

Other technical papers presented at the meeting included:

"Two Methods of Calculating Friction Heads for Pipe Lines," by E. F. Giesecke;

"Compression Tank Selection for Hot Water Heating Systems," H. A. Lockhart and G. F. Carlson;

"Heat Transmitted to the I-B-R Research Home from the Inside Chimney," W. S. Harris and R. J. Martin;

"Fuel Consumption Analysis for Multi-Family Housing Projects," Rutcher Skagerberg and J. E. Phifer;

"Friction Losses in Round Aluminum Ducts," F. W. Hutchinson;

"Pressure Losses in 4-In. Diameter Galvanized Metal Duct and Fittings," H. G. Conn, W. G. Colborne, and W. G. Brown;

"The Shading of Sunlit Glass—An Experimental Study of Slat-Type Sun Shades," G. V. Parmelee, W. W. Aubele, and D. J. Vild;

"Maximum Downward Travel of Heated Jets from Standard Long Radius ASME Nozzles," Linn Helander, Shee-Mang-Yen, and R. E. Crank;

"Air Velocities in Ventilating Jets," G. L. Tuve.

At a symposium on research administration, the group heard E. A. Walker discuss "Participation by Colleges in Research," R. F. Legget outline "Government Sponsored Research—A Canadian View," and W. H. Kliever discuss "Industrial Research in the Control of Environment."

Reg F. Taylor heads up the society as new president. Other officers elected were L. N. Hunter, first vice president; J. E. Haines, second vice president; and J. W. James, treasurer.

FIRST MODEL in McCray's new line of home freezers is this "Twin-Door" 20-cu. ft. upright. Freezer has two independent action doors with built-in bow spring to insure even seal.

McCray Enters Home Freezer Field--

(Concluded from Page 1, Column 4)

spring" is constructed within each door so that it can never warp, sag, or bind. The "bow spring" insures a perfect seal—locking frigid temperature inside, according to Bostwick.

All "Twin-Door" hardware is edge mounted, chrome plated bronze. The positive action latches, available with built-in cylinder locks and key, are chrome plated and built for lifetime service.

The cabinet is constructed of heavy gauge, cold rolled sheet steel, rustproofed by McCray's Bonderizing process. Both inner liner and outer liner are sealed against vapor.

The condensing unit is a hermetically sealed Tecumseh unit operating on 110-volt, 60-cycle current. It carries a five-year warranty.

The home freezer will be distributed by both McCray and its subsidiary, the Palmer Mfg. Co. of Phoenix, Ariz. Fred Barnett of McCray has been made sales manager of the Domestic Freezer Div., while Jack Canady, sales manager of Palmer, will direct sales with the Palmer distributors, Bostwick said.

Redmond
MICROMOTORS
Prompt shipment!
"ONE OR ONE THOUSAND"
74 different models in stock
FACTORY DISTRIBUTORS
CYCLO-FREEZ CORP.
MARVIN L. "FERGIE" FERGESTAD
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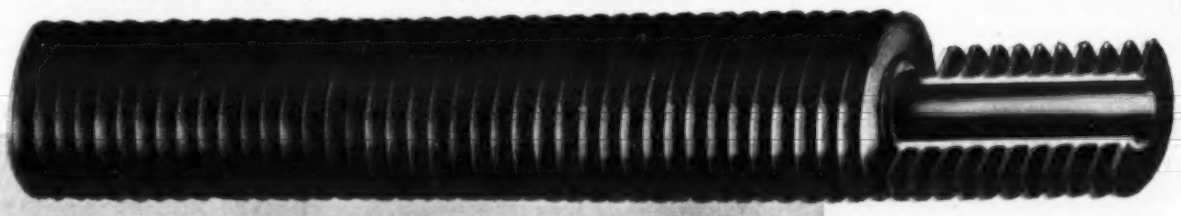
WANTED
Home Freezer Manufacturer's Field Representatives
Manufacturer's representatives wanted for leading home food freezer manufacturer with national distribution. Heavy promotion, outstanding products, and interesting profit deal make selling easy to dealers, food plan operators and distributors. This is a remarkable opportunity to affiliate yourself with this old, established company during expansion of our field force. Several excellent territories are open. Write fully in confidence, covering experience, territory desired, present lines, etc.
Box 4230, Air Conditioning & Refrigeration News

LOOK!

THE FINS OF WOLVERINE TRUFIN* HAVE BEEN SQUEEZED right out of the tube wall

They are the tube itself—the fins and the tube are integral.

Thus they can withstand vibration and sudden temperature changes—assuring full efficiency at all times.



Trufin is available in (1) a variety of alloys, (2) in fin spacings 5, 7, 9, 11, 16 and 19 fins to an inch and (3) in a range of inside diameters from 5/16" to 1".

Also available in bi-metal with an integral fin construction and different metal lining.

Ask for our new Catalog 201 that will give you more detailed information. If you have an immediate problem dealing with heat exchangers we invite you to call our Customer Engineering Service which can offer much helpful information.

*REG. U. S. PAT. OFF.

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